rnia
l

HC
411
F22
v.7

UNIVERSITY OF CALIFORNIA
AT LOS ANGELES

SIGILLVM · VNIVERSITATIS · CALIFORNIENSIS
FIAT LVX
MDCCCLXVIII

EX LIBRIS

China, Manchuria, Japan, Indo-China, Siam, Straits Settlements, Malay States, Burma, India, Malaysia, and the Philippines

# THE FAR EASTERN REVIEW

VOL. VII.—No. 1. MANILA, SHANGHAI AND YOKOHAMA, JUNE, 1910. 50 Centavos Philippine Currency 25 Cents, U. S. C.

His Excellency HSU SHIH-CHANG,
PRESIDENT OF THE BOARD OF POSTS AND COMMUNICATIONS

Neutralization, Coercion or Extension in Manchuria.

The Surplus Funds of the Imperial Chinese Maritime Customs.

Railway Strategy in China.

Modern Japanese Steamers Built by the Mitsu Bishi Dockyard for the N. Y. K. and T. K. K.

Dynamic Flight.
(Continued)

## ENGINEERING
## COMMERCE FINANCE

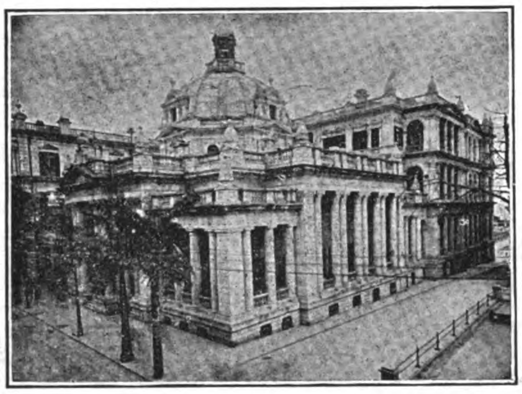
UNIV. OF CALIFORNIA
AT LOS ANGELES

# Hongkong and Shanghai Banking Corporation

*DEPOSITORY OF THE GOVERNMENT OF THE PHILIPPINE ISLANDS*

| | |
|---|---|
| **Capital (Paid in Cash).........$15,000,000** | **Silver Reserve Fund............$15,500,000** |
| **Sterling Reserve Fund.....$15,000,000** | **Reserve Liability of Prop'rs.$15,000,000** |

COURT OF DIRECTORS:
G. BALLOCH, Esq.
Chairman.
R. SHEWAN, Esq.
Deputy Chairman.
F. H. ARMSTRONG, Esq.
J. W. BANDOW, Esq.
HON. MR. HENRY KESWICK.
C. R. LENZMANN, Esq.
S. A. LEVY, Esq.
F. LIEB, Esq.
G. H. MEDHURST, Esq.
E. SHELLIM, Esq.
H. A. SIEBS, Esq.



Head Office, Hongkong and Shanghai Banking Corporation, Hongkong

BRANCHES AND AGENCIES:

| | |
|---|---|
| AMOY | LONDON |
| BANGKOK | LYONS |
| BATAVIA | MALACCA |
| BOMBAY | MANILA |
| CALCUTTA | NAGASAKI |
| CANTON | NEW YORK |
| COLOMBO | PEKING |
| FOOCHOW | PENANG |
| HAMBURG | RANGOON |
| HANKOW | SAIGON |
| HONGKEW (SHANGHAI) | S. FRANCISCO |
| | SHANGHAI |
| HONG-KONG | SINGAPORE |
| IPOH | SOURABAYA |
| JOHORE | TIENTSIN |
| KOBE | YLOILO |
| KUALA LUMPUR | YOKOHAMA |

CORRESPONDENTS—In Samar and Leyte: WARNER, BARNES & CO., LTD.
CORRESPONDENTS—In Cebu: KER & CO.
LONDON OFFICE—31 Lombard St.
LONDON BANKERS—London & County Banking Co., Ltd.

*Interest Allowed on Fixed Deposits at Rates which may be Learned on Application. Credit Granted on Approved Securities and Every Description of Banking and Exchange Business Transacted. Drafts Granted on London and the Chief Commercial Places in Europe, India, Australia, America, China and Japan.*

**J. R. M. SMITH, Chief-Manager - - - HONGKONG** ~ **A. M. REITH, Acting Manager - - - MANILA**

WADE GARDNER, Agent, 50 Wall Street, New York.
W. H. HARRIES, Agent, 401 Montgomery Street, San Francisco

# INTERNATIONAL BANKING CORPORATION

**HEAD OFFICE, 60 WALL STREET, NEW YORK**

**LONDON OFFICE, THREADNEEDLE HOUSE, BISHOPSGATE STREET, WITHIN, E. C.**

**CAPITAL PAID UP AND SURPLUS, $6,500,000.00 UNITED STATES CURRENCY**

**THOMAS H. HUBBARD, President** — **JAMES S. FEARON, Vice-President**

## BRANCHES

| | | |
|---|---|---|
| Bombay | Empire, C. J. | Peking |
| Calcutta | Hankow | San Francisco |
| Canton | Kobe | Shanghai |
| Cebu | Manila | Singapore |
| Colon | Panama | Washington, D. C |
| City of Mexico | | Yokohama |

AGENCIES AND CORRESPONDENTS IN ALL PRINCIPAL CITIES OF THE WORLD
FISCAL AGENTS FOR THE UNITED STATES IN CHINA, THE PHILIPPINE ISLANDS AND THE REPUBLIC OF PANAMA
DESIGNATED DEPOSITORY FOR THE FUNDS OF THE GOVERNMENT OF THE PHILIPPINE ISLANDS
AND FOR THE FUNDS OF THE GOVERNMENT OF THE CANAL ZONE
GENERAL FOREIGN BUSINESS TRANSACTED
COMMERCIAL AND TRAVELLERS' LETTERS OF CREDIT ISSUED
BILLS OF EXCHANGE AND CABLE TRANSFERS BOUGHT & SOLD

HC
411
F22
v.7




# THE YOKOHAMA SPECIE BANK LTD.

**Capital (Paid-up): Yen 24,000,000** **Reserved Fund: Yen 15,900,000**

**HEAD OFFICE YOKOHAMA**

**PRESIDENT**

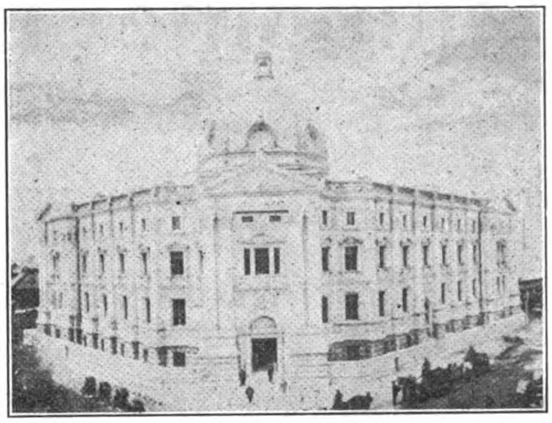
BARON KOREKIYO TAKAHASHI

**DIRECTORS**

NAGATANE SOMA, ESQ.
RIEMON KIMURA, ESQ.
IPPEI WAKAO, ESQ.
MASUNOSUKE ODAGIRI, ESQ.
TCHUNOSUKE KAWASHIMA, ESQ.
KOKICHI SONODA, ESQ.
ROKURO HARA, ESQ.
YUKI YAMAKAWA, ESQ.
VISCOUNT YATARO MISHIMA
HYOKICHI BEKKEY, ESQ.

**GENERAL MANAGER**

YUKI YAMAKAYA, ESQ.



HEAD OFFICE OF THE YOKOHAMA SPECIE BANK, YOKOHAMA

**HEAD OFFICE**

Every description of Banking business transacted.

For particulars, apply to the Manager.

Certified cheques on this Bank will be taken by the Custom House as cash in payment of duty.

Special Safe Deposit's Boxes are provided in the Vault of the Bank.

T. KAWASHIMA, Manager

Yokohama, September, 1909.

**BRANCHES AND AGENCIES:**

| | | | | | |
|---|---|---|---|---|---|
| Tokyo | Hankow | Osaka | Newchwang | Lyons | Ryojun (Port Arthur) |
| Nagasaki | Peking | London | Liaoyang | Honolulu | Fengtien (Mukden) |
| New York | Dairen (Dalny) | San Francisco | Antung-Hsien | Shanghai | Changchun |
| Bombay | Tiehling | Hongkong | Kobe | Tientsin | |

Correspondents at all the chief commercial cities in the world.

**LONDON BANKERS:**

*Parr's Bank, Ltd.*
*Union of London & Smith's Bank, Ltd.*
*London Joint Stock Bank, Ltd*



# RUSSO-CHINESE BANK

**Organized under Imperial Decree 10th December, 1895**

**Capital ................ { Rbs. 15,000,000 / Sh.Tls. 2,000,000**
**Capital contributed by Chinese Government } K. Taels 5,000,000**
**Reserve Fund ........ Roubles 5,612,000**

HEAD OFFICE: ST. PETERSBURG.
LONDON OFFICE: 41 THREADNEEDLE ST. E. C.

BRANCHES AND AGENCIES:

*Andijan*, *Armavir*, *Askhabad*, *Barnaoul*, *Batoum*, *Blagowestchensk*, *Bombay*, *Boukhara*, *Busk*, *Calcutta*, *Chefoo*, *Colombo*, *Hailar*, *Hankow*, *Harbin*, *Hongkong*, *Irkutsk*, *Karachi*, *Kashgar*, *Kerki*, *Khabarovsk*, *Khokand*, *Kiachta*, *Kouldja*, *Krasnoiarsk*, *Kuanchendzel*, *London*, *Marguelan*, *Merw*, *Moscow*, *Namangan*, *Newchwang*, *New York*, *Nicolaievsk o/Amoor*, *Nicolsk-Oussourisk*, *Nijni-Novgorod*, *Novo-Nicolaievsk*, *Novo-Ourguentch*, *Oust-Tcharychsk-Pristane*, *Paris*, *Peking*, *Samarkand*, *San Francisco*, *Semipalatinsk*, *Shanghai*, *Stretensk*, *Tatarskala*, *Tashkend*, *Tchita*, *Tchougoutchak*, *Tientsin*, *Tsitsikar*, *Verchneoudinsk*, *Verny*, *Vladivostock*, *Yakoutsk*, *Yokohama*

TEL. ADDRESS: SINORUSSE, SHANGHAI.

**Bankers**

**London—Messrs. Glyn, Mills, Currie & Co.**
**Paris—Comptoir National d'Escompte de Paris, Banque de Paris et des Pay Bas**
**Berlin—Messrs. Mendelssohn & Co.**
**Hamburg—Messrs. M. M. Warburg & Co.**
**Vienna—K. K. priv. Oesterr. Credit Anstalt fur Handel & Gewerbs.**
**Amsterdam—Messrs. Lippmann, Rosenthal & Co.**

Interest allowed on Current Accounts in Taels at the rate of 2 per cent. per annum on the daily balance.

Fixed Deposits in Taels and Dollars. Terms on application.

Local Bills discounted. Special facilities for Russian Exchange. Foreign Exchange on the principal cities of the world bought and sold.

**H. AUBERT, L. JEZIERSKI, Managers for China & Japan.**



# Deutsche-Asiatische Bank Shanghai

**Berlin, Calcutta, Hankow, Hamburg, Hongkong, Peking, Tientsin, Tsinanfu, Tsintau, Yokohama, Kobe, Singapore.**

**PAID-UP CAPITAL .................. SH. TLS. 7,500,000**

*Founded in 1889 by the following Banks and Bankers:*

Koenigliche Seehandlung (Preussische Staatsbank), Berlin.
Direction der Disconto-Gesellschaft, Berlin.
Deutsche Bank, Berlin.
S. Bleichroder, Berlin.
Berliner Handels-Gesellschaft, Berlin.
Bank fur Handel & Industrie, Berlin.
Robert Warschauer & Co., Berlin.
Mendelssohn & Co., Berlin.
M. A. von Rothschild & Sohne, Frankfurt o/M.
Jacob S. H. Stern, Frankfurt o/M.
Norddeutsche Bank in Hamburg.
Sal. Oppenheim jun. & Co., Cologne.
Bayerische Hypotheken & Wescheel Bank, Munich.

*London Bankers:*

Messrs. N. M. Rothschild & Son.
Union of London & Smith's Bank, Ld.
Deutsche Bank (Berlin), London Agcy.
Direction der Disconto-Gesellschaft.

*New York Agents:*

Hallgarten & Co., No. 5 Nassau St.

Every Description of Banking and Exchange Business Transacted.
Interest allowed on Current Accounts at 2 per cent per annum on the daily balance. Current accounts kept in taels and dollars.
Interest allowed on Fixed Deposits according to arrangement.
Local Bills discounted.
Every description of Banking and Exchange Business transacted.

H. FIGGE, *Manager*,
Shanghai.


178248

# A NEW EL DORADO

## The Philippine Islands

*A Virgin Field Awaiting The Investor. Rich in Minerals, Hardwoods, and Agricultural Products*

Gold Production Increased 150% last year
Coal and Oil Fields Being Developed
Vast Deposits of Copper and Iron

## 40,000,000 Acres of the Finest Hardwoods on Earth

**We Raise** Hemp, Copra, Rubber, Tapioca, Sugar, Tobacco, Coffee, Maguey, and all other Products of Tropical Climes

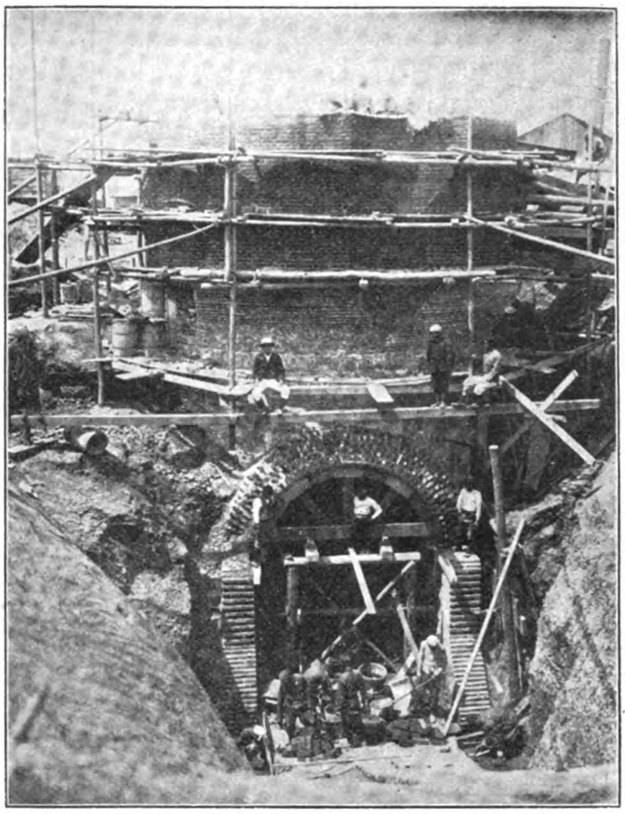
*No Other Land on Earth Offers a More Inviting Field for Capital*

**Write to the Publicity Committee**

THE MANILA MERCHANTS' ASSOCIATION

FOR INFORMATION

# FUSHUN COAL



SINKING SHAFT AT OYAMA PIT, FUSHUN COLLIERY.

## The Best Steaming Coal in the Far East

### Output 3,000 tons per day

Fresh stocks always on hand at Dairen, Newchwang & Tientsin Depots and also at Chefoo, Shanghai, Hongkong, Singapore and Penang.

MINING DEPARTMENT,

## South Manchuria Railway Company

DAIREN

Tel. Add. "Mantetsu," Codes: A.B.C. 5th Ed., A. 1 & Lieber's

Agents: MITSUI & COMPANY

# THE CHINESE ENGINEERING AND MINING CO., LIMITED

Head Office: TIENTSIN,
SHANGHAI, Jinkee Road,
HONGKONG, Alexandra Buildings

**AGENCIES**

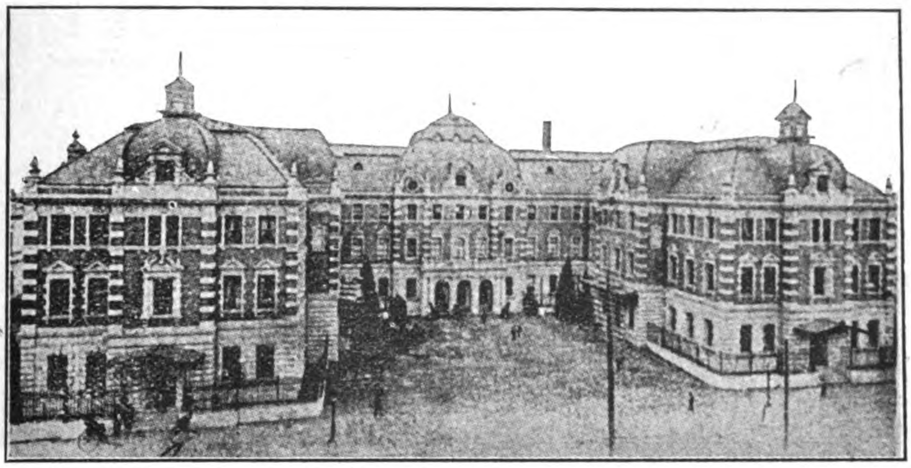
CHEFOO: Anz & Co.
WEIHAIWEI: Lavers & Clark.
HANKOW: C. Monbaron, Esq.
DALNY: Cornabe, Eckford & Co.
TSINGTAU }
NEWCHWANG } Arnhold, Karberg & Company.
MUKDEN }
PEKIN: V. Redelsperger, Esq.
SINGAPORE: Adamson, Gilfillan & Company, Ltd.

The addresses of the Company's Agencies are as follows:

| | | TELEGRAPHIC ADDRESS. |
|---|---|---|
| TIENTSIN | C. E. & M. Co., Ltd., Office | MAISHAN |
| TONGKU | do. | MAISHAN |
| CHINWANGTAO | do. | MAISHAN |
| HONGKONG | do. Alexandra Buildings | MAISHAN |
| SHANGHAI | do. 1 Jinkee Rd. | SILI |
| CHEFOO | Anz & Co. Agents | MAISHAN |
| DALNY | Cornabe, Eckford & Co. ,, | CORNABE |
| WEIHAIWEI | Lavers & Clarke ,, | MAISHAN |
| TSINGTAU | Arnhold Karberg & Co. ,, | MAISHAN |
| NEWCHWANG | Arnhold Karberg & Co. ,, | MAISHAN |
| MUKDEN | Arnhold Karberg & Co. ,, | MAISHAN |
| HANKOW | C. Monbaron ,, | MONBARON |
| SINGAPORE | Adamson, Gilfillan & Co., Ltd. ,, | GILFILLAN |
| PEKING | J. Redelsperger ,, | REDELSPERGER |
| LONDON | C. E. & M. Co., Ltd., Office 22 Austin Friars E. C. | KAIMACS |
| BRUSSELS | do. 48 Rue de Namur | KAIPING |

General Telegraphic Address: "MITSUI"

A B C, 5th edition and A1 Codes used



THE MITSUI BUILDING, TOKIO,
Containing the offices of the Mitsui Family Council, The Mitsui Mining Co., The Mitsui Bank, and The Mitsui Bussan Kaisha

# THE MITSUI BUSSAN KAISHA

## (MITSUI & CO. IN EUROPE AND AMERICA)

## HEAD OFFICE: Surugacho, Tokio, Japan

**President:** HACHIROJIRO MITSUI, Esq.

**Directors:** SENJIRO WATANABE, Esq.; GIICHI IIDA, Esq.; SANKICHI KOMURO, Esq.; KENZO IWAHARA, Esq.; JOTARO YAMAMOTO, Esq.

**Home Branch Offices:** YOKOHAMA, MOJI, KUCHINOTSU, NAGOYA, WAKAMATSU, MIIKE, OSAKA, KARATSU, TAIPEH, KOBE, NAGASAKI.

**Branch Offices in Asia:** TIENTSIN, NEWCHWANG, SHANGHAI, BOMBAY, SINGAPORE.

**London Branch Office:** MITSUI & Co., Lime Street.

**New York Branch Office:** MITSUI & Co., 445 Broome Street.

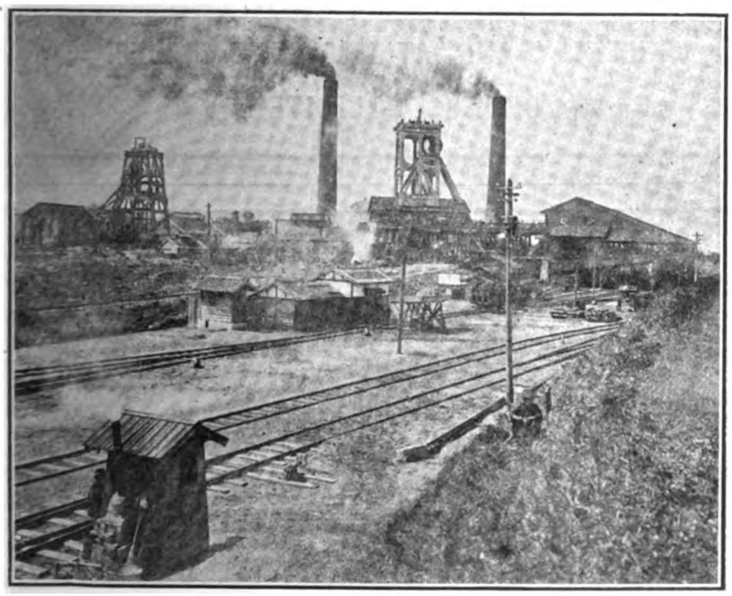
**Agents:** HAMBURG, CANTON, CALCUTTA, BANGKOK, FOOCHOW, HARBIN, SAN FRANCISCO, AMOY, DAIREN, TSINGTAU, SAIGON, SOURABAYA, HANKOW, SEOUL, ANTUNG, SYDNEY, MANILA, CHEFOO, CHEMULPO, RANGOON, VLADIVOSTOCK, ETC.

## IMPORT, EXPORT AND COMMISSION MERCHANTS

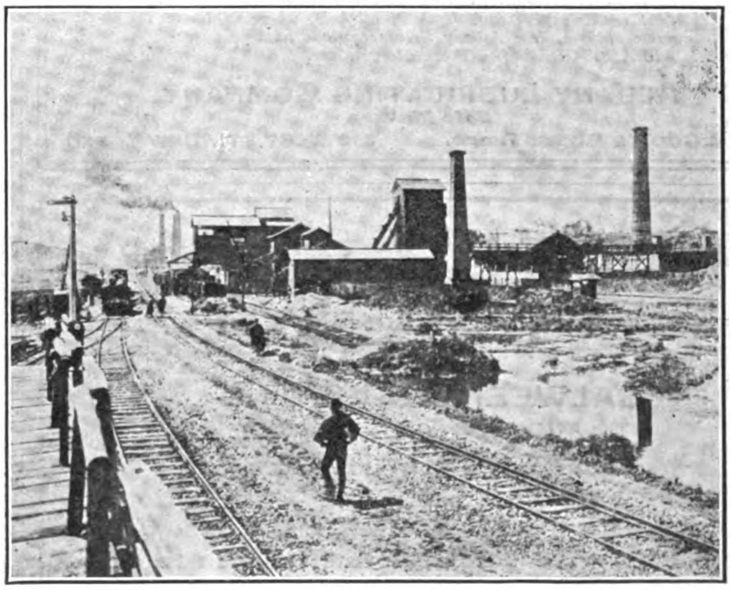
**CONTRACTORS OF COAL** to the Imperial Japanese Navy and Arsenals, the State Railways, Principal Railway Companies, Industrial Works, the United States Army Transport Service, and Home and Foreign Mail and Freight steamers.

**SOLE PROPRIETORS** of the famous Miike, Tagawa, Yamano and Ida Coal Mines, and Sole Agents for Hondo, Kanada, Kishima, Mameda, Mannoura, Ohnoura, Ohtsuji, Sasahara, Tohmiyama, Tsubakuro, Yoshio, Yunokibara, Takae, Fushun and other Coals.

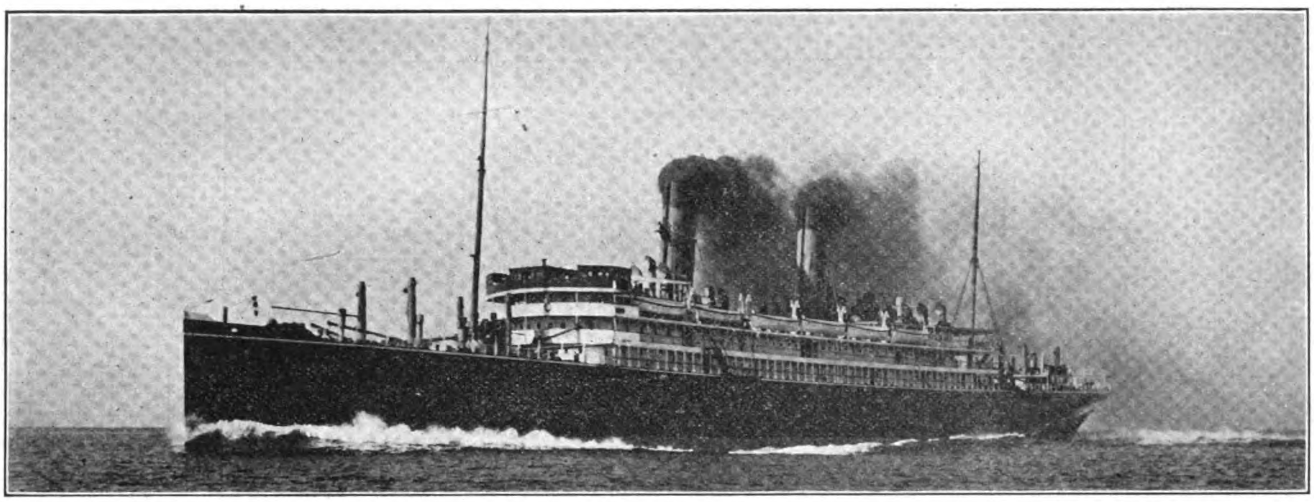
**IMPORTERS AND EXPORTERS** of Cotton, Cotton Yarn, Cotton Piece Goods, Book-binding Cloth, Copper, Silver, Tin, Lead and other Metals, Railway Materials, Acids, Camphor, Flour, Cereals, Manure, Opium, Isinglass, Mushrooms, Sugar, Wax, Vermicelli, Sulphur, Hemp, Beer, Cement, Cigarettes, Matches, Paper, Hides, Leather Belts, Teak and other Timbers, Machinery, etc.



MIYANOHARA PIT, MIIKE MINE



WASHING PLANT, MIIKE MINE



S. S. "CHIYO-MARU"

TRANS-PACIFIC TURBINE DRIVEN PASSENGER STEAMER "CHIYO-MARU" FOR T. K. K.—Built and engined by the Mitsu Bishi Dockyard and Engine Works, Nagasaki, November 1908.—Length (overall), 570 feet 0"; Breadth, moulded, 63 feet 0"; Depth (shelter deck), 46 feet 6"; Gross tonnage, 13,426 tons; Displacement, 18,725 tons; Engines, Parsons' Three Shaft Arrangement; Boilers, Single Ended Scotch Boilers (13); I. H. P., 19,591; Speed, 21 knots. (This photo was taken on her full speed trials the 13th October, 1908.)

# MITSU BISHI DOCKYARDS & ENGINE WORKS, NAGASAKI

| DOCK NO. 1. | | | DOCK NO. 2. | | | DOCK NO. 3. | | |
|---|---|---|---|---|---|---|---|---|
| EXTREME LENGTH | 523 | FT. | EXTREME LENGTH | 371 | FT. | EXTREME LENGTH | 722 | FT. |
| LENGTH ON BLOCKS | 513 | " | LENGTH ON BLOCKS | 360 | " | LENGTH ON BLOCKS | 714 | " |
| WIDTH OF ENTRANCE ON TOP | 88 | " | WIDTH OF ENTRANCE ON TOP | 66 | " | WIDTH OF ENTRANCE, TOP | 99½ | " |
| " " " " BOTTOM | 77 | " | " " " " BOTTOM | 53 | " | " " " BOTTOM | 88½ | " |
| WATER ON BLOCKS AT SPRING TIDE | 26½ | " | WATER ON BLOCKS AT SPRING TIDE | 22 | " | WATER ON BLOCKS AT SPRING TIDE | 34½ | " |

## THE BEST EQUIPPED SHIPBUILDING PLANT IN THE FAR EAST,

WITH SPECIAL FACILITIES FOR HANDLING THE HEAVIEST CASTINGS AND THE REPAIRING OR BUILDING OF SHIPS, ENGINES AND BOILERS, ALSO ELECTRICAL WORK.

LARGE STOCK OF MATERIAL, AND FITTINGS ALWAYS ON HAND

THE POWERFUL SALVAGE STEAMER "OURA-MARU" (712 TONS, 700 I. H. P.) EQUIPPED WITH NECESSARY PUMPS AND GEAR, IS ALWAYS READY AT SHORT NOTICE.

## Have you ever stopped

*to consider that a lubricant that splashes or drips increases the fire risk of a building?*

Increased fire risk means *increased fire insurance rates.*

## ALBANY GREASE

**neither splashes nor drips.**

That's why five underwriters will allow a *lower* rate on buildings containing machinery lubricated with ALBANY GREASE than on buildings containing oil lubricated machinery.

ALBANY GREASE effects many other economies. That's why it's the *cheapest* of all lubricants to *use.*

*You can readily prove, at our expense, what an all-around economical lubricant ALBANY GREASE is for all machinery. Just send us pipe tap, depth of oil hole, where used and name of firm. An Albany Grease cup and trial package of ALBANY GREASE will come to you free.*

ALBANY LUBRICATING COMPANY

***Sole Makers***

ADAM COOK'S SONS, *Props.* 313 WEST ST., NEW YORK,

# THE WEN MING PRESS

88 HONAN ROAD, SHANGHAI

HIGH GRADE HALF TONES, ZINC ETCHINGS, ETC.

TYPE FOUNDRY, PRINTERS AND LITHOGRAPHERS

ALL WORK DONE

SKILFULLY AND AT MODERATE PRICES.

ORDERS SOLICITED

# HOTELS WHERE TO LIVE AT MANDALAY

## UPPER BURMA

SALWEEN HOUSE

AND

TENASSERIM HOUSE

Entire satisfaction guaranteed, as the numerous testimonials from both residents and tourists testify.

TELEGRAPHIC ADDRESS: "SALWEEN"

P. O. Box 194

# C. S. NICHOLSON

GENERAL BROKER

9 P. MORAGA. MANILA, P. I.

# THE KAWASAKI DOCKYARD CO., LTD.

## DAIREN

Cable Address: "DOCK," Dairen
Codes: AI and A. B. C. 5th Ed.

**PAID UP CAPITAL: -Y-10,000,000**

THE DAIREN BRANCH has a DRY DOCK and fully equipped MACHINE and TOOL SHOPS, an IRON & BRASS FOUNDRY and other Auxiliary Works. It undertakes general CASTING WORK and the construction and repair of all kinds of VESSELS, BOILERS, ENGINES and other MACHINERY.

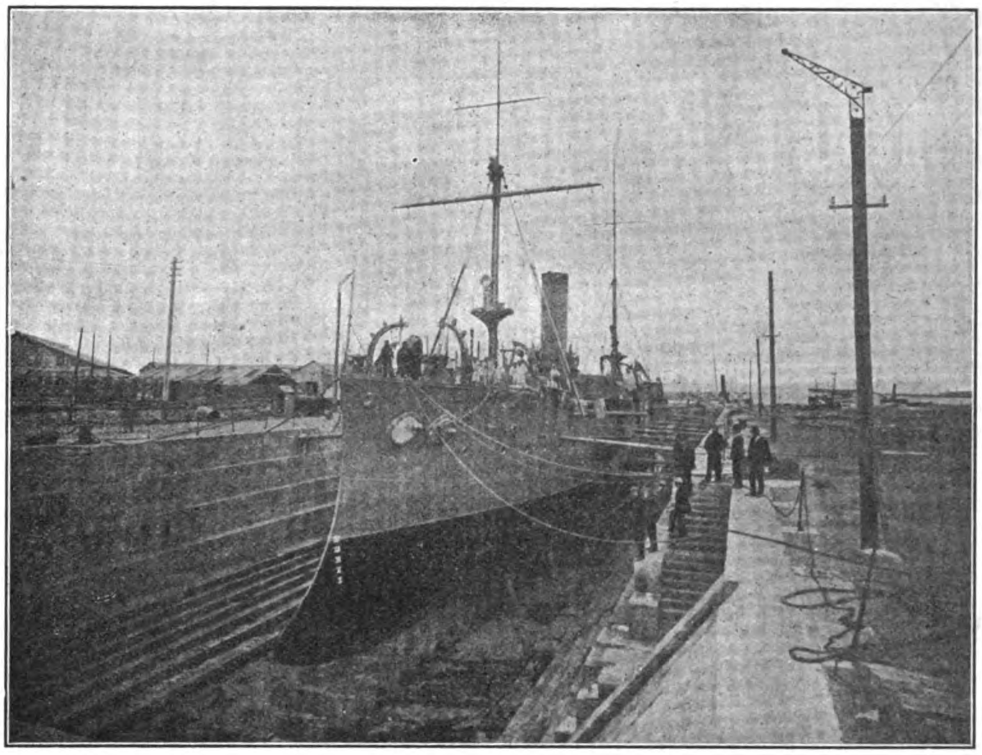
Powerful Salvage & Towing Boats will be supplied at Shortest Notice.

All work guaranteed to be of the highest order and to be of the most up-to-date improvements. All orders immediately attended to.

**DOCK**

| | |
|---|---|
| Length | 380 ft. |
| Width | 50 ft. |
| Depth over Sill | 20 ft. |

**DOCKING CHARGES VERY MODERATE**



GRANITE DRY DOCK, DAIREN

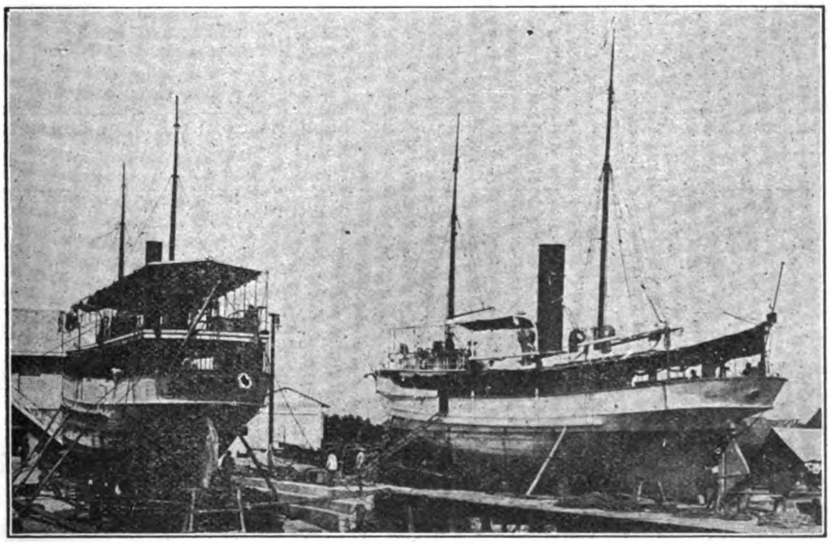
# MANUEL EARNSHAW & CO., LTD.

## MARINE ENGINEERS

15 BARCELONA ST., MANILA

REPAIRS TO SHIPS,
BOILERS,
ENGINES, ETC.

LAUNCH BUILDERS,
FOUNDERS IN IRON,
BRASS, ETC.



MARINE SLIPWAY

**P. O. BOX NO. 282**

**TELEPHONE 213**

Telegraphic Address:
"MEARNSHAW" MANILA

Codes:
A. B. C., 5th Edition
Engineering Telegraph Code and Supplement; Western Union

FOUNDRY AT
151 REINA REGENTE

SLIPWAY AT
CAVITE

# KIANGNAN DOCK AND ENGINEERING WORKS

**Directors:**

**ADMIRAL SAH**
IMPERIAL CHINESE NAVY

**KWONG KWOH WAH**
TAOTAI

**Manager:**

**R. B. MAUCHAN**

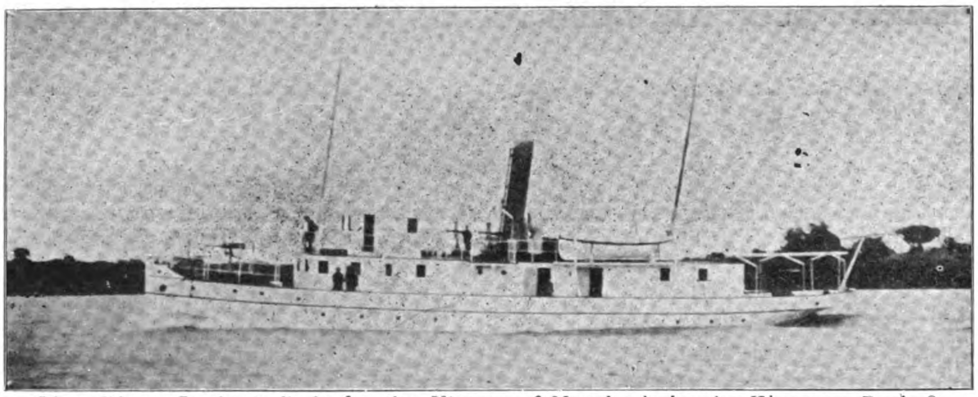
## KIANGNAN DOCK

Length over all, 385′; length on blocks, 375′; water on sill, 19′; dock entrance, top, 70′, bottom, 60′.

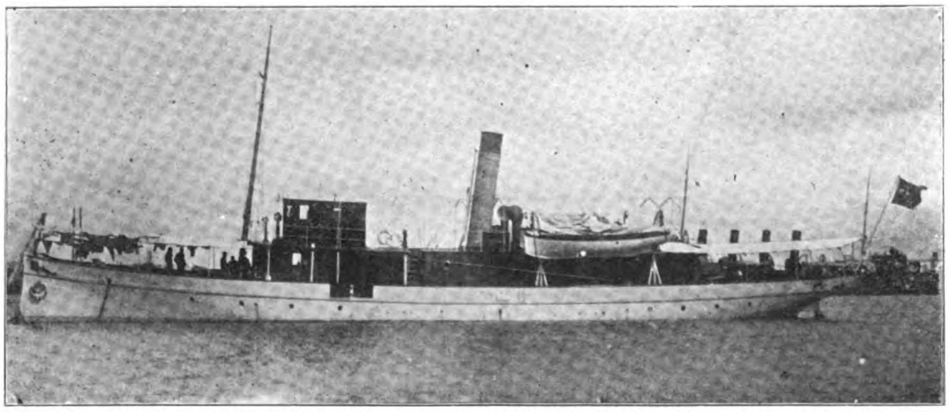
The dock accommodates the largest coasting steamers and is equipped with complete modern facilities for handling work thoroughly and promptly.

The new machine and boiler shops, and the foundry and shipbuilding plant are equal to any this side of Suez.

Yangtsze River Pirate Chaser, Built by the Kiangnan Dock & Engineering Works for the Viceroy of Nanking



Liao River Gunboat Built for the Viceroy of Manchuria by the Kiangnan Dock & Engineering Works



River Patrol Boat Built for the Szechuan Viceroy by the Kiangnan Dock and Engineering Works

Cable Address:

**"SINODOCK"**

Codes:

**A. B. C. 5TH EDITION, ENGINEERING, LIEBER'S, STANDARD**

**CONTRACTORS FOR REPAIRING, DOCKING AND REFITTING THE VESSELS OF THE IMPERIAL CHINESE NAVY AND THE IMPERIAL MARITIME CUSTOMS**

Patent slipway for small steamers and launches. Complete boat and launch building shops.

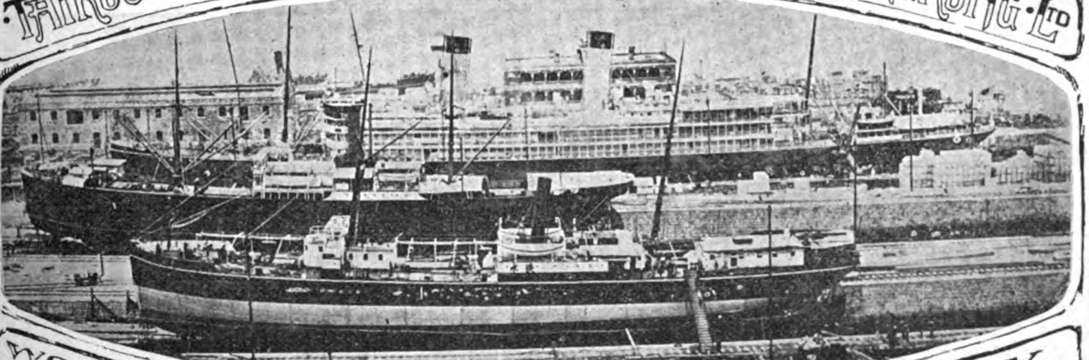
# TAIKOO DOCKYARD & ENGINEERING Co. OF HONGKONG, LTD.

**Engineers, Boilermakers, Repairers**

WORKS COVER AN AREA OF 53 ACRES

DRY DOCK 787 FT. × 88 FT. DEPTH 34½ FT.

SLIPWAYS
NO. 1 1030 FT.
NO. 2 993½ FT.
NO. 3 993½ FT.



**Builders** OF PASSENGER AND CARGO STEAMERS, TURBINE STEAMERS, STEAM YACHTS, ALL TYPES OF WAR VESSELS STEAM LAUNCHES MOTOR BOATS TUGS AND LIGHTERS

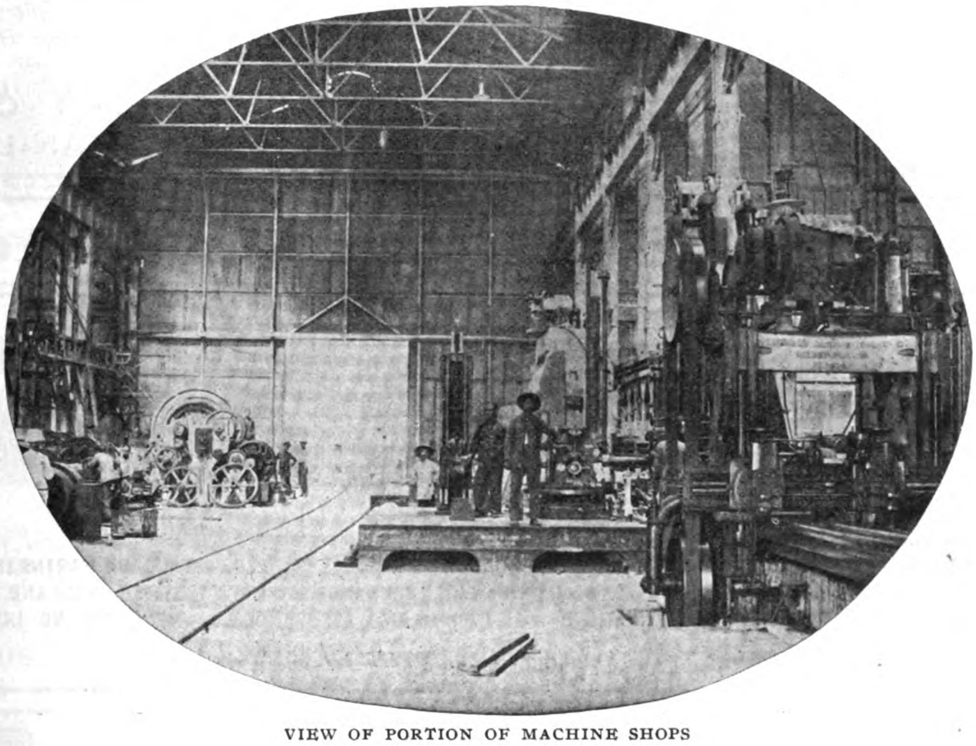
WORKS & GENERAL OFFICES QUARRY BAY HONGKONG

Telegrams
Temseloaf London
Taikoodock Hongkong

A SECTION OF THE YARD SHEWING TURBINE STEAMSHIP "CHIYO MARU" 13,600 TONS IN DRY-DOCK, TWO COASTING STEAMERS ON SLIPWAYS, AND VESSEL LYING ALONGSIDE THE SEAWALL

THE BUILDING YARD IS LAID OUT WITH FURNACES AND PLANT SUITABLE FOR BUILDING VESSELS UP TO 20,000 TONS

GENERAL MANAGERS
**John Swire & Sons**
8 BILLITER SQUARE, LONDON



VIEW OF PORTION OF MACHINE SHOPS

AGENTS IN HONGKONG, CHINA AND JAPAN
**Butterfield & Swire**

THE POWER FOR THE ESTABLISHMENT is generated by Gas Producers, on the Mond System, supplying 4 Cockerill Gas Engines of 3,000 collective horse power, driving Electrical Generators, and is transmitted throughout the Works by means of Electrical Motors.

AN ELECTRIC DERRICK CRANE capable of lifting weights up to 100 tons, is erected on the Sea Wall, and 14 Electric Overhead Travelling Cranes ranging from 5 tons to 100 tons, are fitted throughout the Workshops.

AGENTS IN MANILA AND PHILIPPINE ISLANDS

**CASTLE BROS.-WOLF & SONS**

THE DOCK PUMPS consist of 2 sets of Centrifugal, Electrically driven, pumps, together capable of emptying the Dock with 35 feet of water on the Cill in 2¾ hours.

THE MACHINERY in the Engine Works is laid out for dealing with the heaviest classes of Engines.

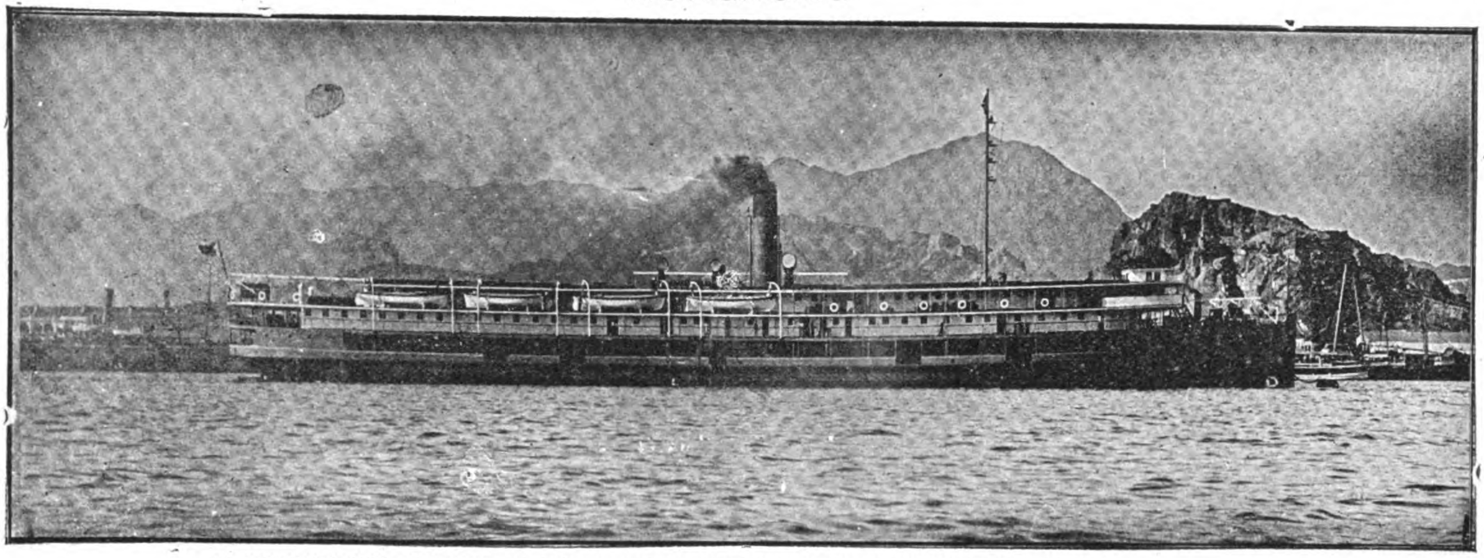
THE SLIPWAY CARRIAGES are of the latest pattern by Morton of Leith, and the Winding Gear consists of large electrically driven winches operating massive wire cables.

TENDERS SUBMITTED AND ESTIMATES GIVEN FOR BUILDING AND REPAIRING ALL CLASSES OF VESSELS; ALSO FOR EVERY DESCRIPTION OF ENGINE AND BOILER, MECHANICAL, ELECTRICAL AND CONSTRUCTIONAL WORK

# HONGKONG & WHAMPOA DOCK CO., LTD.

ENGINEERS, BOILERMAKERS, FOUNDERS, SHIP BUILDERS AND DOCK OWNERS

HONGKONG



YANGTSZE RIVER STEAMER **LOONG-WO** BUILT BY THE HONGKONG AND WHAMPOA DOCK COMPANY, LTD.

The Company has SIX GRANITE DOCKS and TWO PATENT SLIPS of the following dimensions:—

| *Name of Dock or Slip* | *Length on Keel Blocks* | *Entrance Breadth* | *Depth Over Sill at Ordinary Spring Tides* | *Rise of Tide* | |
|---|---|---|---|---|---|
| | | | | *Springs* | *Neaps* |
| **KOWLOON** | *Feet* | *Feet* | *Feet* | *Feet* | *Feet* |
| No. 1 Dock, Kowloon........ | 576 | 86 ft top / 70 ft. bottom | 30′ | 7′ 6″ | 3 |
| No. 2 Dock, Kowloon ....... | 371 | 74′ | 18′ 6″ | 7′ 6″ | — |
| No. 3 Dock, Kowloon........ | 264 | 49′ 3″ | 14′ | 7′ 6″ | — |
| Patent Slip, No. 1, Kowloon... | 240 | 66′ | 14′ | 7′ 6″ | — |
| Patent Slip, No. 2, Kowloon... | 220 | 60′ | 12′ | 7′ 6″ | — |
| **TAI-KOK-TSUI** | | | | | |
| Cosmopolitan Dock.......... | 466 | 85′ 6″ | 20′ | 7′ 6″ | — |
| **ABERDEEN** | | | | | |
| Hope Dock ............... | 430 | 84′ | 23′ | 7′ 6″ | — |
| Lamont Dock............... | 333 | 64′ | 16′ | 7′ 6″ | — |

THE COMPANY'S DOCKS at KOWLOON, TAI-KOK-TSUI and ABERDEEN are in efficient working order, and the attention of Captains and Shipowners is respectfully solicited to the advantages which these Establishments offer for Docking and Repairing Vessels.

*For Further Particulars apply at the Offices of the Company, Queen's Buildings, No. 1, New Praya, Hongkong, or to*

## FINDLAY & CO.

AGENTS, MANILA, P. I.

# W. F. Stevenson & Co., Ltd.

ILOILO MANILA CEBU

MERCHANTS

## STEAMSHIP AGENCIES

BOSTON STEAMSHIP COMPANY—BOSTON TOW BOAT COMPANY—"BEN" LINE OF STEAMERS—"INDRA" LINE OF STEAMERS—NORTHERN PACIFIC STEAMSHIP COMPANY—PENINSUAR AND ORIENTAL STEAM NAVIGATION CO. - - - - - - - -

## INSURANCE AGENCIES

LIFE, STANDARD LIFE ASSURANCE CO.—MARINE, MARINE INSURANCE CO., PTD.—STANDARD MARINE INSURANCE CO., LTD.—BRITISH AMERICA ASSURANCE CO.—FIRE, NORWICH UNION FIRE INSURANCE SOCIETY—SCOTTISH UNION AND NATIONAL INSURANCE CO.—NATIONAP ASSURANCE COMPANY OF IRELAND—BRITISH AMERICA ASSURANCE CO.—NEW ZEALAND INSURANCE CO. - -

4 MUELLE DEL REY, MANILA, P. I.

# Johnson-Pickett Rope Co.

PURE MANILA ROPE

MADE WITH LATEST IMPROVED ROPE MACHINERY

Average Breaking Load After Three Tests:

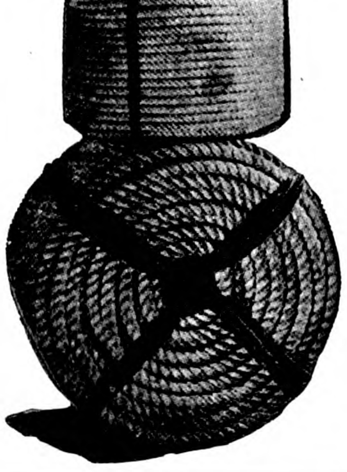
2 Inch Rope Circumference........ 4,037 Pounds
3½ " " " .. ..... 16,670 "
5 " " " ........ 23,728 "

Factory and Salesroom.
Cor. Vives and Lara, Murallon,
San Nicolas, Manila, P. I.

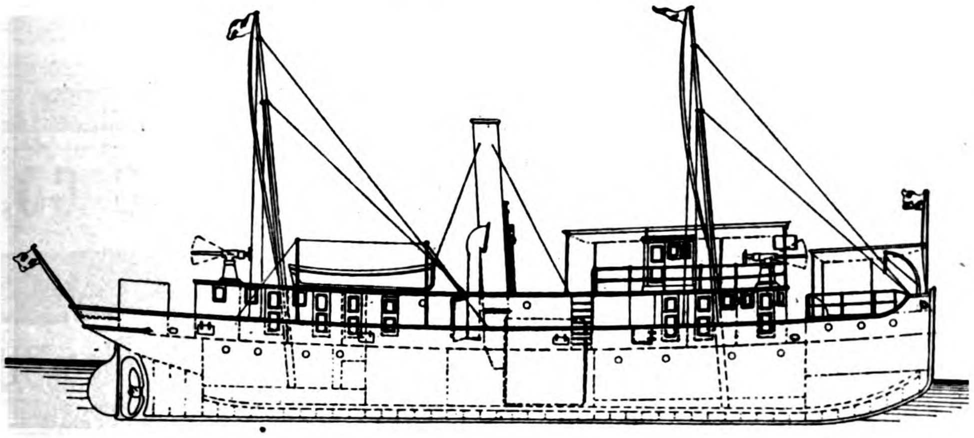
TELEPHONE
1123

Cable Address: SANTAROPE
Code: Western Union, Universal Edition

CORRESPONDENCE SOLICITED



ENGINEERS, MACHINISTS and FOUNDERS



I. C. M.'S GUNBOAT "KAI-HAI" BUILT BY THE NEW ENGINEERING AND SHIPBUILDING WORKS, LTD. SHANGHAI, FOR SERVICE IN NORTH CHINA: SPEED, 11 KNOTS

SHIPBUILDERS, BOILERMAKERS, ELECTRICIANS

COAST AND RIVER STEAMERS, TUGBOATS, LAUNCHES, LIGHTERS, PONTOONS, SHALLOW DRAFT SIDE OR STERN WHEEL STEAMERS. ENQUIRIES SOLICITED. PLANS, SPECIFICATIONS AND ESTIMATES FURNISHED. ALL CLASSES OF ENGINEERING WORK UNDERTAKEN

# THE NEW ENGINEERING AND SHIPBUILDING WORKS, LTD.

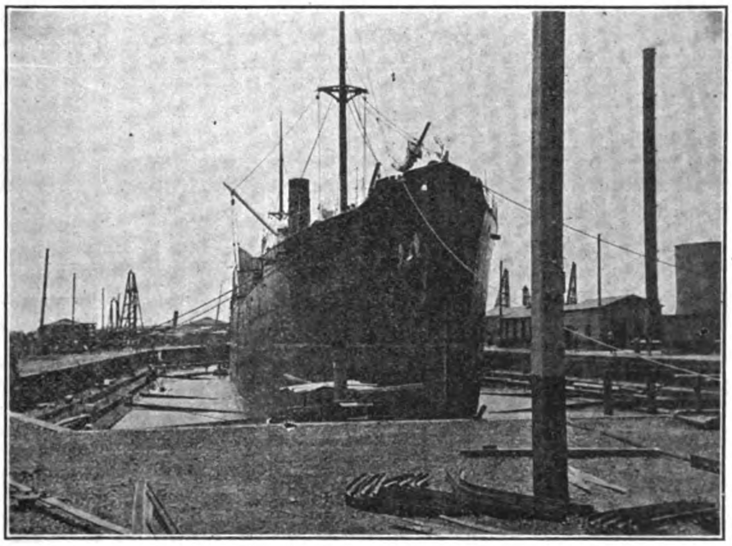
SHANGHAI

PROPRIETORS OF THE

## YANGTSZEPOO DOCK

THE DOCK, WORKS AND OFFICE ARE LOCATED ON THE SHANGHAI SIDE OF THE RIVER, 15 MINUTES BY ELECTRIC TRAM FROM HEART OF THE CITY

THE WORKS ARE EQUIPPED WITH THE MOST MODERN MACHINERY, CAPABLE OF HANDLING THE LARGEST MARINE ENGINEERING WORK



VIEW OF YANGTSZEPOO DOCK

PARTICULARS OF DOCK
LENGTH ON BLOCKS 455'6"
" OVERALL - 469'6"
WIDTH, ENTRANCE 74'6"
" SILL - - 64'6"
DEPTH ON SILL, (H. W. O. S. TIDES) - - - 21'6"
DEPTH ON 3'6" BLOCKS (H. W. O. S. TIDES) 19'6"
PUMPS CAN EMPTY DOCK WITHOUT VESSEL IN, IN 3½ HOURS.
WORKSHOPS LOCATED AT HEAD OF DOCK

OFFICE, DOCK & WORKS, 37 YANGTSZEPOO ROAD, SHANGHAI

TELEGRAPHIC ADDRESS: "SPEEDY." CODE: A.B.C., 5TH EDITION — TELEPHONE 703. — MANILA AGENT, F. L. STRONG

# THE SHANGHAI DOCK AND ENGINEERING CO., LTD.

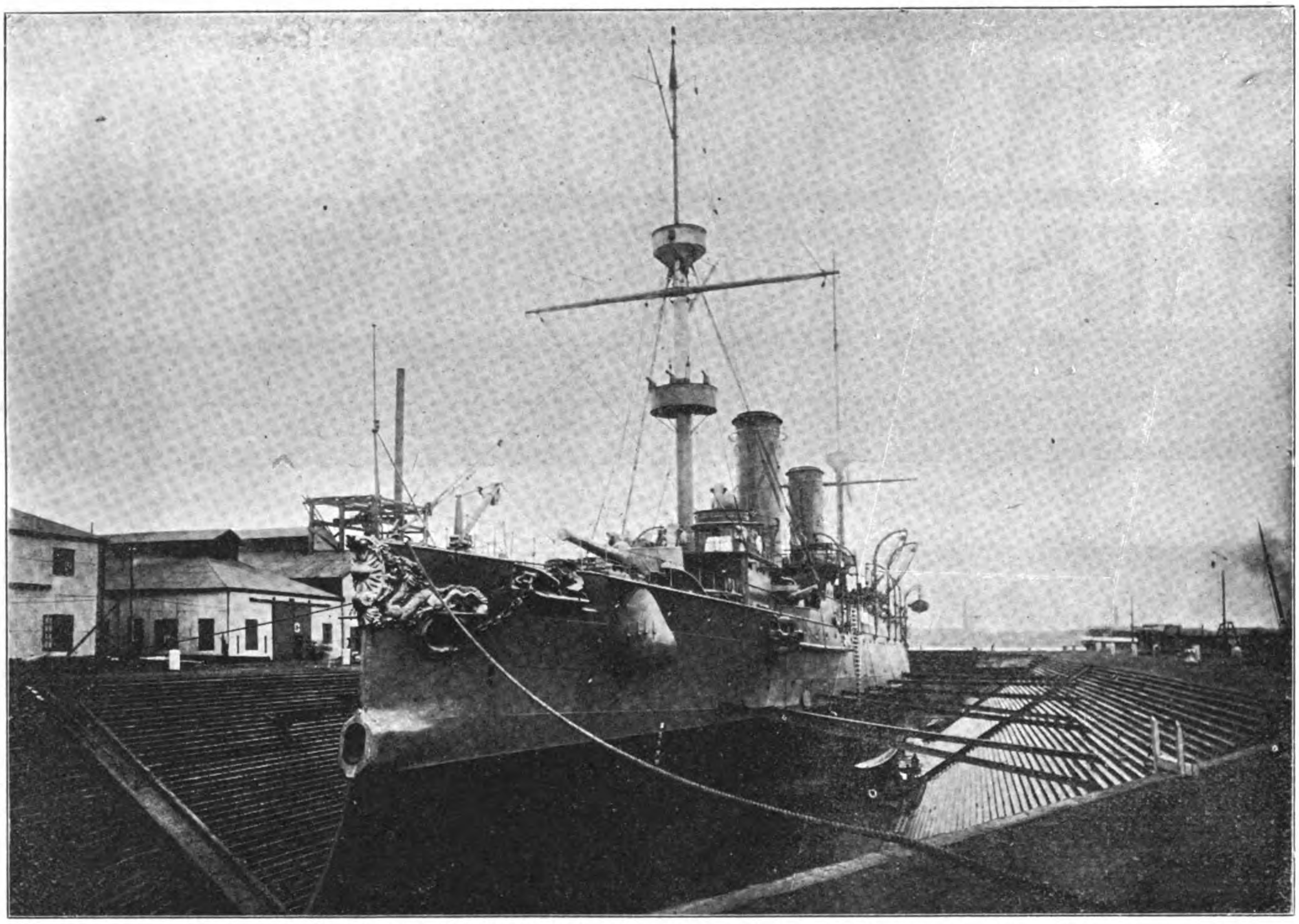
DOCK OWNERS — ENGINEERS — SHIP BUILDERS — FOUNDERS

SHANGHAI

CHINA

Cable Address:
"FARNHAM," SHANGHAI

Codes Used:
A l., A B C (4th & 5th Editions)
Watkin's, Scott's, Western
Union and Engineering



The HAI-CHI in the "OLD DOCK" of the Shanghai Dock & Engineering Co., Ltd.

The Docks are five in number, ranging in length from 360 feet to 560 feet, and breadth of entrance from 57 feet to 82 feet, with the depth of water on the sill from 16 feet to 24 feet.

The Dock charges are very moderate.

The Water Frontage is about 1½ miles in length. Wharves and Pontoons are arranged where steamers can moor during repairs; and slips for hauling up small vessels are provided. Sheer legs capable of lifting 65 tons are placed at the various Docks.

The extensive Shipbuilding yards and workshops are provided with the latest improvements in tools, traveling cranes of 70 tons' capacity, hydraulic and pneumatic machinery.

Lit up by Electric light with railway lines through workshops and yards.

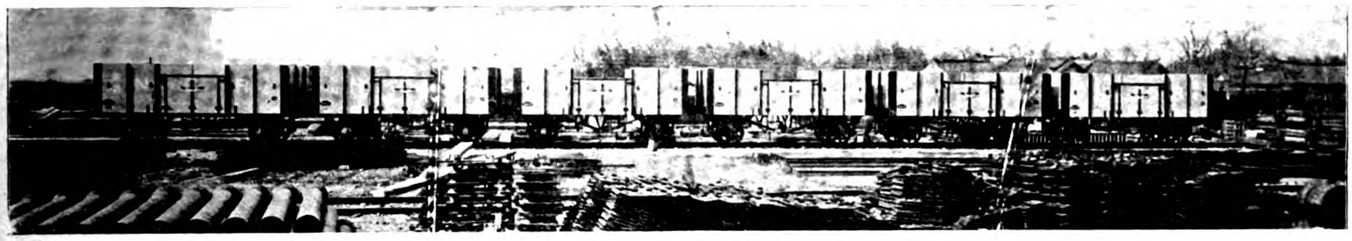
Powerful salvage appliances can be supplied at short notice. Enquiries immediately attended to.

Estimates given for all classes of work; Coast Steamers, Side and Stern-Wheelers, Tugboats, Launches, Steam Barges, Dredgers, Floating Cranes, and Lighters a speciality.

Every description of repairs and renewal work undertaken and expeditiously executed.

Land and Marine Engines and Boilers, Centrifugal, Mining, and other pumping machinery always in stock or in progress, also power driven Machine Tools, Engineer's Hand Tools, Steam, Gas, Oil, and Electric machinery and engineering accessories generally.

## CORRESPONDENCE INVITED



TYPE OF HIGH SIDE GOODS WAGONS

CONSTRUCTED BY THE VULCAN IRONWORKS, LTD., FOR THE NANKING CITY RAILWAY

# Railway Coaches and Goods Wagons Assembled Structural Steel Work Erected

ESTIMATES given for every description of Engineering and Constructional work and repairs, including supplying and installing of HOT WATER and STEAM HEATING in all its branches and HOT and COLD WATER SUPPLIES.

THE WORKS are electrically driven, and are equipped throughout with up-to-date machinery and labour saving devices, including an HYDRAULIC PLANT, and appliances to undertake constructing or repairing SHIPS, ENGINES, BOILERS, etc.

EXPERIENCED EUROPEAN STAFF SUPERVISES ALL BRANCHES OF WORK

# VULCAN IRONWORKS, Ltd.

ENGINEERS, SHIPBUILDERS, BOILERMAKERS, ELECTRICIANS, IRON AND BRASS FOUNDERS, ETC.

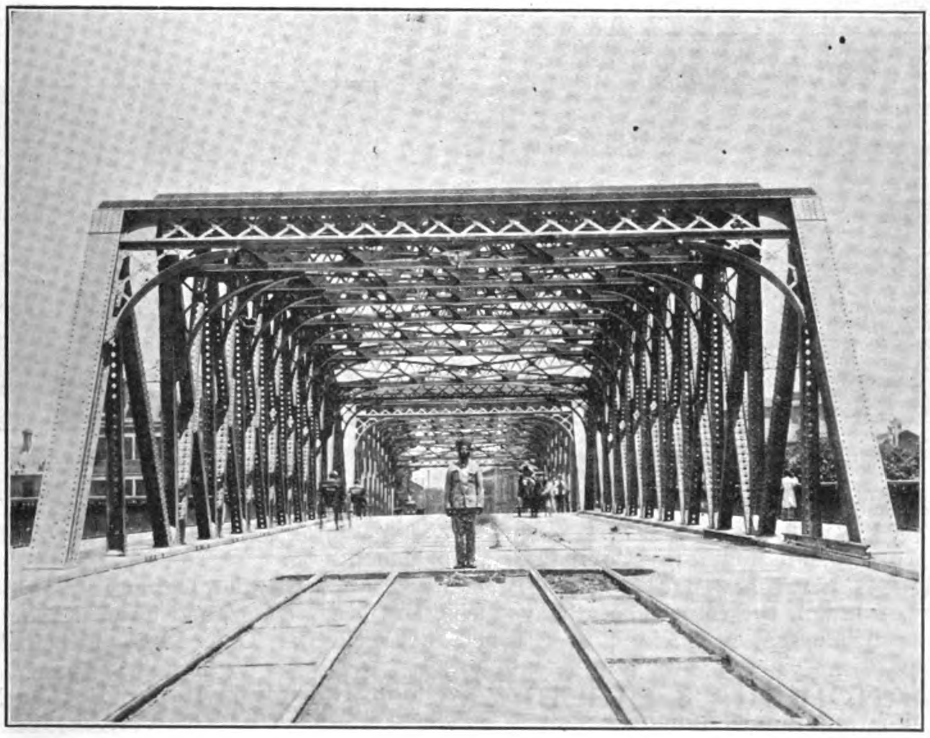
Office and Works: 45 YANGTSZEPOO ROAD, SHANGHAI

# PATTON'S IRONHIDE PAINT

A PROTECTIVE COATING FOR IRON AND STEEL

PREVENTS CORROSION CAUSED BY DAMPNESS, SULPHUROUS FUMES AND OTHER DELETERIOUS GASES

Tough
Elastic
Durable



THE RUSTLESS COATING FOR

STRUCTURAL IRON WORK, STEEL CARS, TRAIN SHEDS, IRON PARTS OF ROLLING STOCK

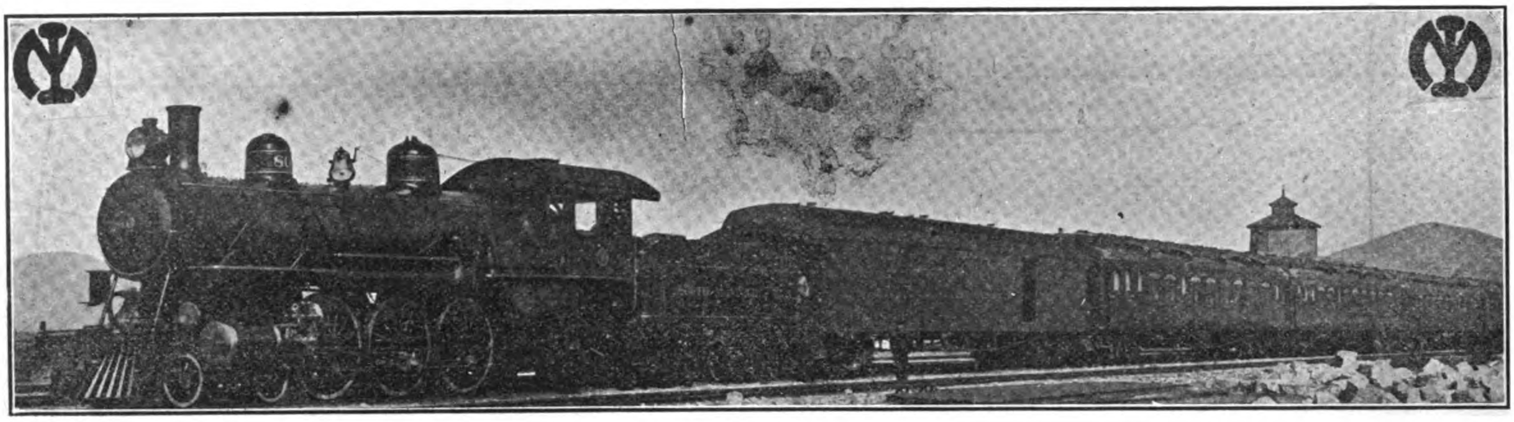
BRAKE RODS, TRUSS RODS, TRUCKS, AND BRIDGES, SUBJECTED TO SEVERE VIBRATORY STRAINS, SHOULD ALWAYS BE COATED WITH PATTON'S

"IRONHIDE"

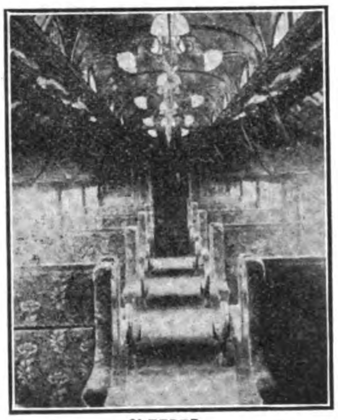
FEARON, DANIEL & CO.

Sole Agents for CHINA, HONGKONG, JAPAN AND PHILIPPINES

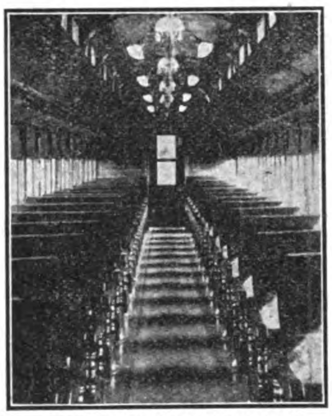
SHANGHAI, NO. 9 FOOCHOW ROAD



# South Manchuria Railway


SLEEPER

**SHORTEST AND QUICKEST ROUTE BETWEEN THE FAR EAST AND EUROPE, VIA DAIREN**


INTERIOR PULLMAN DAY COACH

**Main Railway Line** THRICE WEEKLY EXPRESS TRAIN SERVICE, composed of excellently equipped Sleeping, Dining and 1st class Cars, is operated between Dairen and Changchun in connection with the Trans-Siberian Express Trains and with Shanghai Mail Steamers.

## BRANCH RAILWAY LINES:

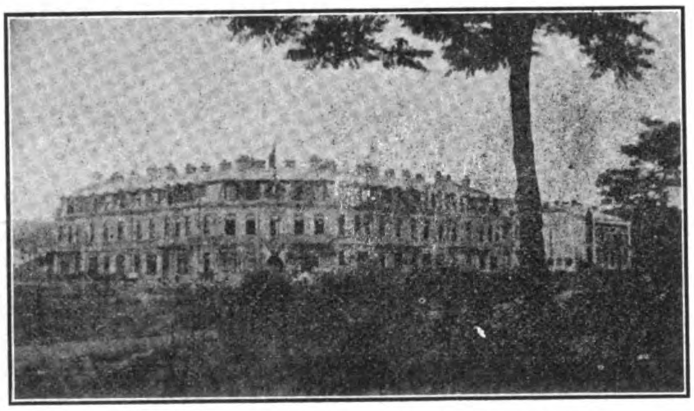
RYOJUN LINE—For Ryojun (Port Arthur), 1½ hours from Dairen.

YINGKOU LINE—For Yingkou (Newchwang), 40 minutes from Tashihchiao Junction.

FUSHUN LINE—For the famous Fushun Colliery from Suchiatun Junction.

ANTUNG LINE—A light railway from Mukden to Antung connecting with the Korean Railway.

DAIREN-SHANGHAI DIRECT STEAMER SERVICE—is maintained TWICE-WEEKLY by the S.S. "Kobe Maru" and "Saikio Maru" (2,877 tons each).


SOUTH MANCHURIA RAILWAY, YAMATO HOTEL, PORT ARTHUR

YAMATO HOTEL, DALNY

**TICKET AGENTS** The International Sleeping Car & Express Trains Co. and Messrs. Thos. Cook & Son.

**RAILWAY HOTELS** YAMATO HOTEL (Tel. Add.: "Yamato") At Dairen, Port-Arthur and Changchun, and shortly at Mukden, all under the Company's management.

**THROUGH PASSENGER TICKETS**—In conjunction with the Chinese Eastern Railway, Imperial Government Railways of Japan, the Imperial Railways of North China, the Osaka Shosen Kaisha and the Company's own steamers, Through Passenger Tickets are issued between the Company's principal stations and the undermentioned points:—

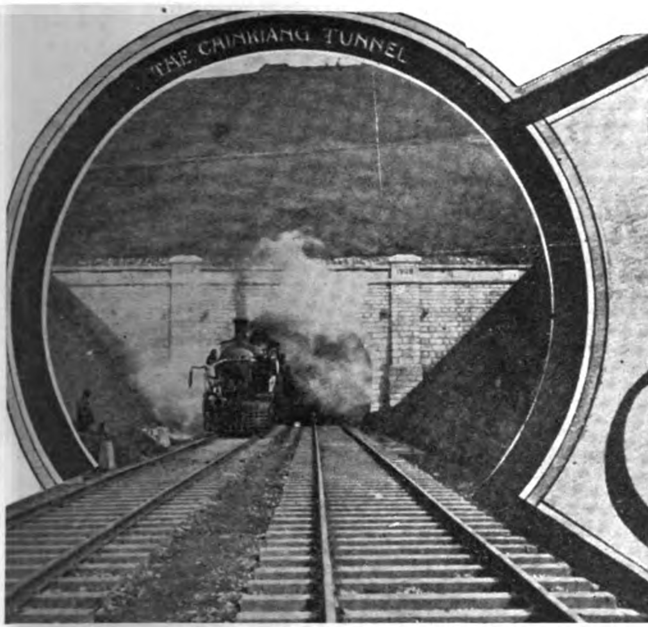
**NORTH MANCHURIA & SIBERIA:** Ashiho, Habarovsk, Hailar, Harbin, Manchouli, Nicolsk-Ussurisk, Pogranitchnaia, Shuangchengpu, Tsitsihar, Taolaichao, Vladivostock, Yaomen.

**CHINA:** Hsinminfu, Peking, Shanghai, Shanhaikuan, Tientsin.

**JAPAN:** Hakata, Hiroshima, Kioto, Kobe, Kumamoto, Moji, Nagasaki, Nagoya, Osaka, Shimonoseki, Tokyo, &c.

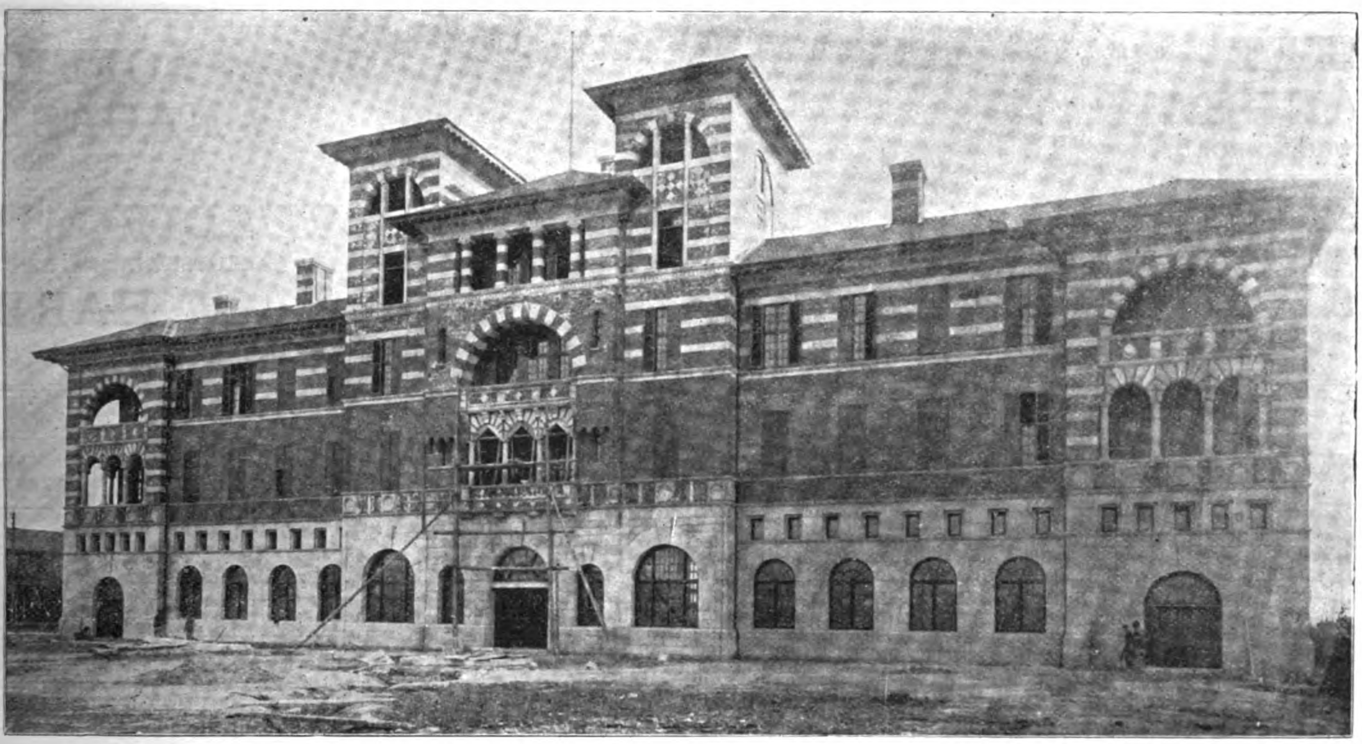
**SOUTH MANCHURIA RAILWAY COMPANY, Dairen**

**Tel. Add.: MANTETSU -:- Codes: A. B. C., 5th Ed., A1 and Lieber's**




# SHANGHAI NANKING RAIL-WAY

## *The Line of a Hundred Pagodas*



NEW STATION AND ADMINISTRATION BUILDING AT SHANGHAI

PASSENGERS TO THE YANGTSZE RIVER PORTS SHOULD TAKE THE STEAMER AT NANKING, THUS ENJOYING A TRIP THROUGH THE INTERESTING LAND OF PAGODAS AND "THE GARDEN OF CHINA." NANKING, THE SOUTHERN CAPITAL OF CHINA, WITH ITS MANY INTERESTING SIGHTS, THE CELEBRATED MING TOMBS, AND OTHER ATTRACTIONS, CAN BE SEEN IN TWO DAYS' TRIP FROM SHANGHAI. THE FIRST AND SECOND CLASS COACHES OF THE S-N. RAILWAY COMPARE WITH THE BEST IN EUROPE OR AMERICA FOR COMFORT AND SERVICE. TWO EXPRESS TRAINS DAILY.

# CHINESE EASTERN RAILWAY

## STEAMER & EXPRESS SERVICE

FAR EAST — EUROPE

**TICKET SHANGHAI**
8 KIUKIANG ROAD

**PEKING**
AMBASSADOR'S STREET

**HEAD OFFICES**

**OFFICES NAGASAKI**
THE BUND

**VLADIVOSTOK**
ALEUTSKAIA, No. 37

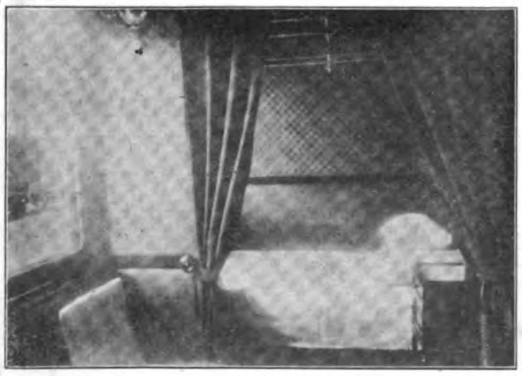
**AT HARBIN**

## STEAMER AND TRAIN TIME TABLE

| STEAMERS | | Free Time Between the Arrival of Steamer and Departure of Train | TRAINS | | | |
|---|---|---|---|---|---|---|
| DEPARTURE | ARRIVAL AT VLADIVOSTOCK | | DEPARTURE FROM VLADIVOSTOK | ARRIVE IRKUTSK | ARRIVE MOSCOW | ST. PETERSBURG |
| | | | (Harbin Time) | (St. Petersburg Time) | | |
| SHANGHAI Saturday*.......... | Thursday, 9.00.................... | 31.25 hours | Friday, 4.25...... | Tuesday, 1 29... | ................. ... | Monday, 6.00 |
| NAGASAKI Monday, 6.00...... | do do .................... | 31.25 " | Friday, 4.25...... | Tuesday, 1.29... | ................... | Monday, 6.00 |
| TSURUGA Saturday / Thursday 5.00 | Monday / Saturday 11.00 ............... | 29.25 " | Tuesday / Sunday 4.25.. | Saturday, 1.29.. / Thursday, 1.29.. | Friday, 7.06...... / Wed., 7.05...... | ................ |

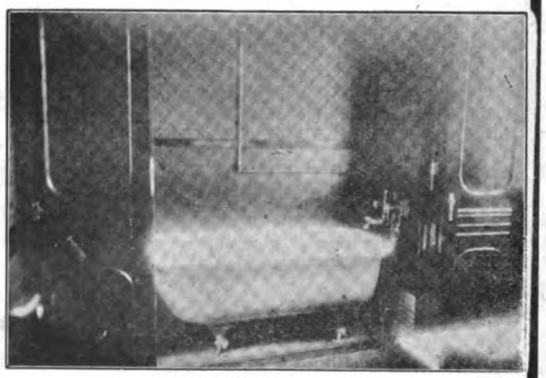
The hours of departure depend upon the tide. The express trains of the Chinese Eastern Ry. Co. leave Vladivostock on Fridays and Sundays. The express leaving on Fridays connect at Irkutsk with the express State trains running between Irkutsk and St. Petersburg via Vologda-Viatka. The Chinese Ry. Co.'s expresses consist of luggage car, restaurant car, two second and one first class cars, and are provided with a 1st class kitchen and servants speaking English and French.

### THE COMFORTS OF THE CHINESE EASTERN EXPRESS



SLEEPING ROOM

DINING CAR



BATH ROOM

# SIEMENS SCHUCKERT

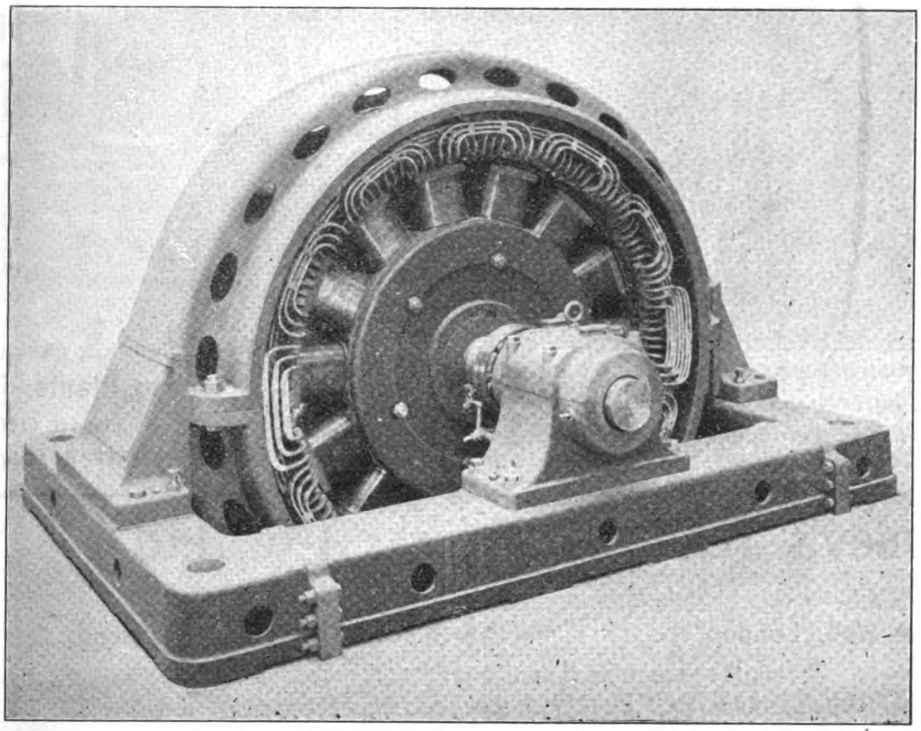
## MANUFACTURERS OF EVERYTHING ELECTRICAL

**CHINA BRANCH HEAD OFFICE: AT SHANGHAI, SZECHUEN ROAD AND JINKEE ROAD CORNER**
**SUB-AGENCIES: AT TSINGTAO, HANKOW AND TIENTSIN, WITH A LARGE STAFF OF EFFICIENT ELECTRICAL ENGINEERS**

Representing the Siemens Companies:

**SIEMENS BROTHERS DYNAMO WORKS - - - London-Stafford**
**SIEMENS BROTHERS & COMPANY - - - - London-Woolwich**
**SIEMENS & HALSKE A. G. - - - - - Berlin-Nonnendamm**
**GEBRUEDER SIEMENS & CO. - - - - - Berlin-Lichtenberg**
**SIEMENS-SCHUCKERTWERKE G. m. b. H. - - Berlin-Nuernberg**

Cable Address: FOR SHANGHAI, HANKOW & TIENTSIN, "MOTOR;" FOR TSINGTAU, "SIEMENS"
Codes used: PRIVATE, LIEBER'S AND A-1.



DIRECT COUPLED THREE-PHASE ALTERNATING CURRENT

## DYNAMO

**as installed at Mukden, Kirin, Soochow, Luanchow Mines and Tsingtau by Siemens-Schuckert-China-Branch**

***Plans and Estimates given for all descriptions of Electrical Machinery and Apparatus on short notice***

### COMPLETE EQUIPMENTS FOR

*Lighting, Power and Traction Plants—Electrical Pumping, Winding and Hauling Plants—Builders of the "Zoelly" Steam Turbine—Manufacturers of Telephone, Telegraphic and Roentgen Ray Apparatus, Watermeters, Ozone Machines, Cables, Glow-lamps, Batteries, Electric and Gasoline Motor-Cars.*

**WIRELESS TELEGRAPHY INSTALLATIONS, SYSTEM TELEFUNKEN**

19 SZECHUEN RD.
SHANGHAI
Telephone, 1944
Telegrams: "GOLDFLOWER"
Codes: A. B. C., 5th Ed. Lieber's and Engineering

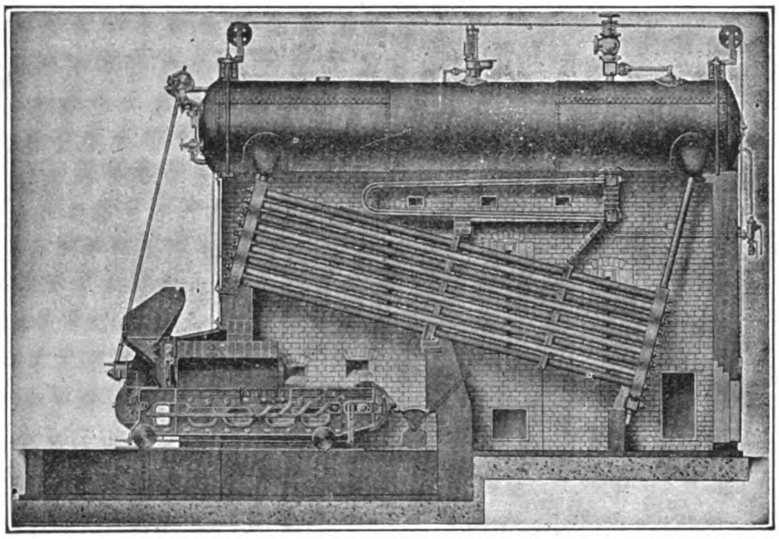
# DAVID W. BELL
## SHANGHAI CHINA

SOLE REPRESENTATIVE IN CHINA FOR THE FOLLOWING FIRMS

## BABCOCK & WILCOX, LIMITED
PATENT WATER TUBE BOILERS

7,000,000 H. P. Land Type and 1,400,000 H. P. Marine Type in use
2,100,000 H. P. of which are installed in

**Electric Light & Traction Stations**



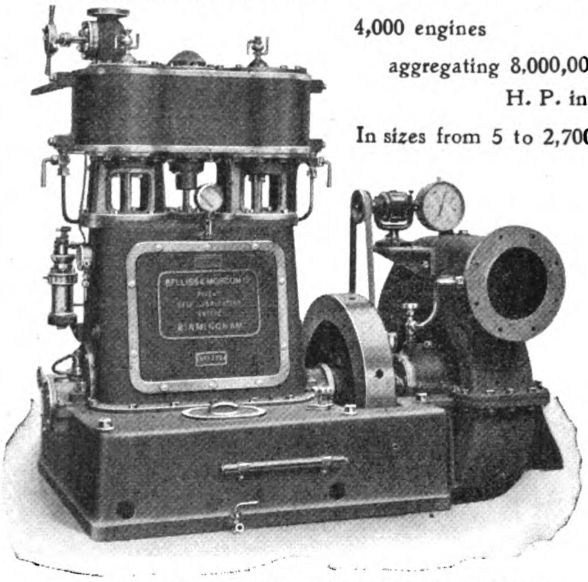
LAND TYPE BOILER FITTED WITH SUPERHEATER AND CHAIN GRATE STOKER

**Complete Steam Piping Installations and all Boiler House Accessories**

HEAD OFFICES:—Oriel House, Farringdon Street, London, E. C.
WORKS:—RENFREW, SCOTLAND

## BELLISS & MORCOM, LTD.
PATENT SELF-LUBRICATING
QUICK REVOLUTION STEAM ENGINES

4,000 engines
aggregating 8,000,000
H. P. in use
In sizes from 5 to 2,700 H. P.



DIRECT CONNECT CENTRIFUGAL PUMPING

**Condensing Plants, Paraffin Engines**

Head Office:
LEDSAM ST., BIRMINGHAM, ENGLAND

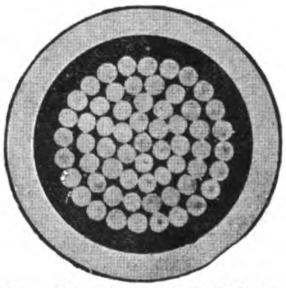
## W. T. Henley's Telegraph Works Co., Ltd.

HEAD OFFICES:
Blomfield St., London Wall, London

WORKS:
North Woolwich and Gravesend.

**Stocks carried at our**
**SHANGHAI DEPOT, 19 Szechuen Road.**

Prices on application for Rubber, Paper, Jute or Bitumen. Insulated, House Service, Aerial and Bare Copper Cables. Flexibles or Telephone and Telegraph Cables of all kinds.



"61—.101—.5 sq. in.: H. T. Paper and Lead Covered."

## A Few Eastern Works Which Have Installations From One Or All the Above Firms

*Green Island Cement Co., Hongkong.*
*Electric Traction Co., of Hongkong.*
*China Light & Power Co., Kowloon and Canton.*
*Manila Electric R. R. & Light Co.*
*Shanghai Municipality Electricity Works (Tramway & Light.)*
*Cie Francaise de Tramways et d'Eclairage Electriques de Shanghai.*
*Shanghai-Nanking Railway.*
*Admiralty Dockyard, Hongkong.*
*The Trading Co., Hankow.*
*The Hongkong Electric Light Co.*
*The Hongkong and Whampoa Dock Co.*
*China Inland Light Co., Shanghai.*
*Swatow Electric Light Co.*
*Hankow Light & Power Co.*
*Hankow (Native City) Waterworks & Light Co.*
*Tientsin Gas & Electric Light Co.*
*Peking Electric Light Co.*
*Peking Syndicate, Ltd.*
*Hanyang Iron & Steel Works.*
*Tientsin Enterprising Corporation.*
*Fushun Colliery, Manchuria.*

**Correspondence Solicited—Estimates Given**

Specifications drawn and estimates given for Boilers, complete plants including superheaters, pumps, complete steam pipe ranges, chimneys, etc., Engines and condensing plants; for Central Stations, Dockyards, Arsenals, Mills, Factories, Collieries, Mines, etc.

SHANGHAI
HONGKONG
CANTON
HANKOW
CHUNGKING
TIENTSIN
TSINGTAU

# ARNHOLD, KARBERG & CO.

TSINANFU
NEWCHWANG
NEW YORK
BATTERY PL.
LONDON
BERLIN

## General Agents for

**ELECTRICAL GENERATORS, SUPPLIES, ETC.**

Allgemeine Electricitaets Gesellschaft (A. E. G.) Berlin.

**ELECTRIC TRAIN LIGHTING**

Electric Train Lighting Co. Berlin.

**RAILWAY MATERIAL**

Arthur Koppel Ltd., Berlin.

**STEAM LOCOMOTIVES**

The Baldwin Locomotive Works, Philadelphia.

**STEAM PUMPS**

The A. S. Cameron Steam Pump Co., New York.

**TELEPHONE APPARATUS**

The Western Electric Co., New York and Chicago.

**FLOUR MILLING MACHINERY**

The Nordyke & Marmon Co., Indianapolis.

**BLASTING POWDER, FUSES, ETC.**

Rendrock Powder Co., New York.

**REINFORCED CONCRETE CONSTRUCTION**

Trussed Concrete Steel Co. (Kahn System), Detroit.

**HEAVY MACHINE TOOLS**

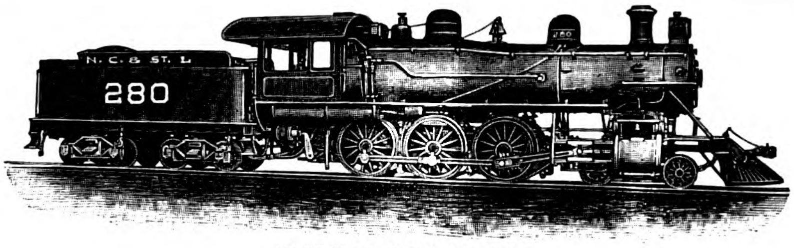
Niles-Bement-Pond Co., New York.

**BELTING**

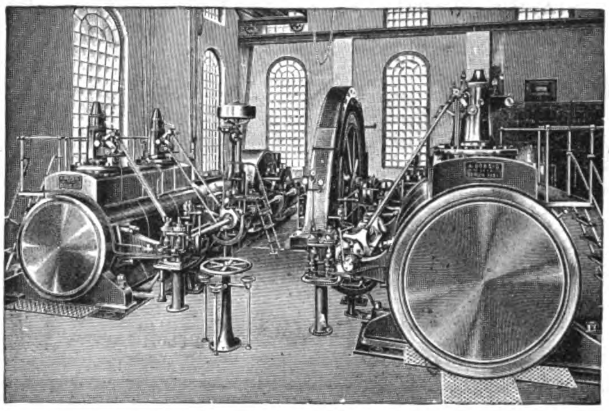
Gandy Belting Co., Baltimore.

**DRILLING MACHINERY**

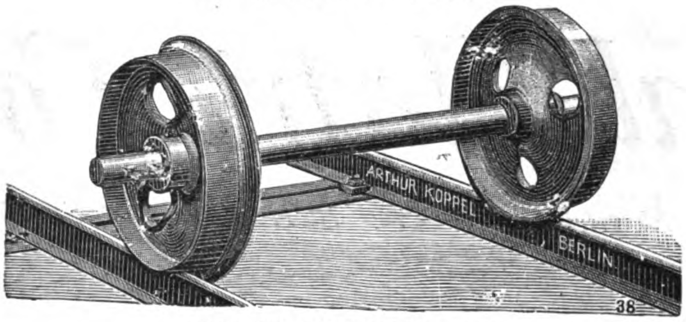
Davis Calyx Drill Co., New York.
Star Drilling Machine Co., Akron, Ohio.



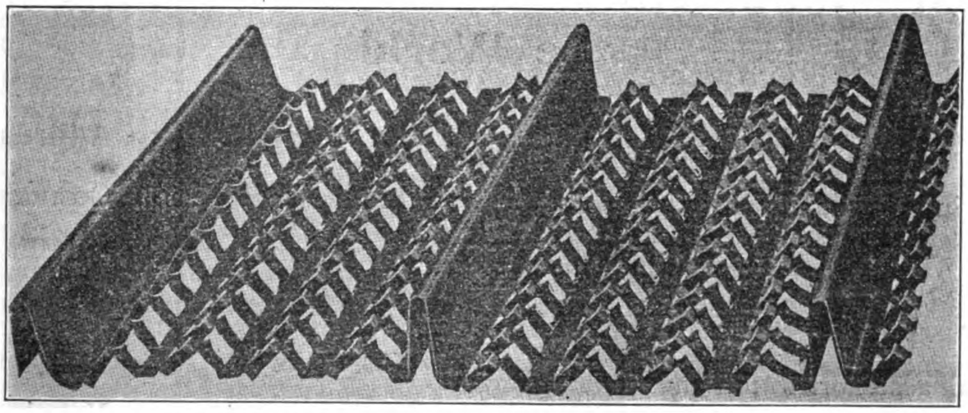

BALDWIN LOCOMOTIVE



A. E. G. ELECTRICAL PLANT




RAILWAY WHEELS AND AXLE



HY-RIB USED EXTENSIVELY FOR WALLS, SIDINGS, ROOFS, PARTITIONS, SUSPENDED CEILINGS AND FURRING

## General Agents for

**CONCRETE MACHINERY**

Ideal Concrete Machinery Co., South Bend.

**ROOFING**

Paraffine Paint Co., San Francisco.

**MOTORS, TORPEDO AND MINING MATERIAL**

Berliner Maschinenbau A. G. vorm Schwarzkoff, Berlin.

**ENGINES, PUMPS, BOILERS, ICE MACHINES, ETC.**

A. Borsig, Tegal, Berlin.

**AMMUNITION, ETC.**

Deutsche Waffen and Munitions Fabriken, Berlin, Karlsruhe.

**ARMY RIFLES, ARMS, ETC.**

Waffenfabrik Mauser A. G., Obendorf, Neckar.

**GUNS AND AMMUNITION**

Skodawerke A. G., Pilsen.

**MACHINE TOOLS**

Ludw. Loewe, A. G., Berlin.

**WAR VESSELS**

Stettiner Maschinenbau A. G. "Vulcan."

**STEEL**

Jonas & Colver, Ltd., Sheffield.

**COTTON MILLING MACHINERY**

Asa Lees & Co., Ltd., Oldham.

**MOTOR BOATS**

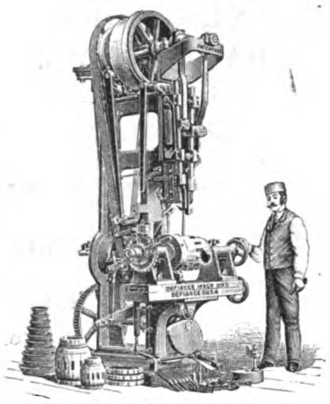
Carl Meissner, Hamburg.

**DIESEL ENGINES**

Diesel Engine Co., Ltd. London.

ENGINEERING AND ELECTRICAL DEPARTMENTS

# "DEFIANCE" WOOD-WORKING MACHINERY



No. 2 Hub Mortiser

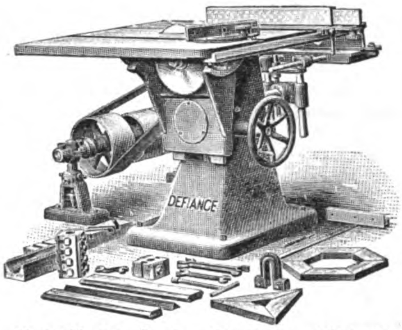
Invented and Built by

**THE DEFIANCE MACHINE WORKS**

DEFIANCE, OHIO, U. S. A.

For manufacturing AUTOMOBILE WHEELS AND BODIES, Hubs, Spokes, Wheels, Wagons, Carriages, Rims, Shafts, Poles, Neckyokes, Single Trees, Hoops, Handles of all kinds, Bobbins, Spools, Insulator Pins, Table Legs, Balusters, Shoe Lasts, Oval Wood Dishes and for General Woodwork.

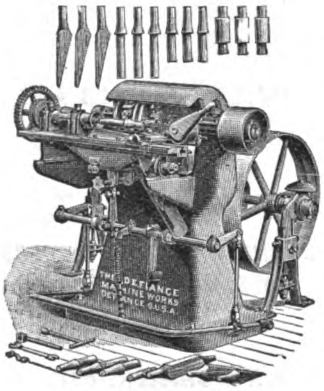
**Send for Catalogue**



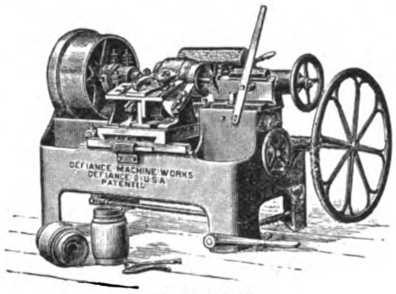
No. 8 Variety Sawing, Shaping and Cut off

**EASTERN AGENTS:**

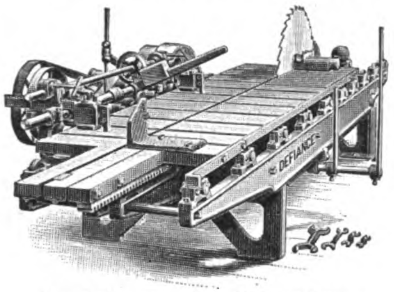
| | |
|---|---|
| Schuchardt & Schutte, Shanghai | Mitsui & Co., Tokyo |
| Frank L. Strong, Manila, P. I. | London Office, 71 Queen St. E.C. |



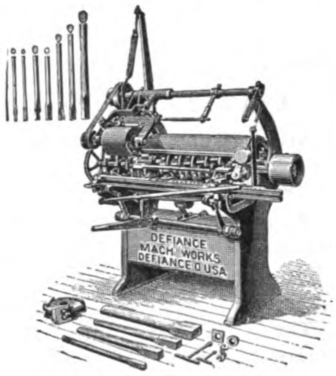
Insulator Pin Lathe



No. 1 Hub Lathe



No. 6 Short Log Saw Mill and Edger



Automatic Spoke Lathe

# *General Electric Company*

*PRINCIPAL OFFICE: SCHENECTADY, N. Y.*

## Largest Manufacturer of Electrical Apparatus in the World

The most extensive engineering and manufacturing resources in the world enable the General Electric Company to produce completely developed apparatus and accessories for the generation and transmission of electricity and its application to all lighting and power purposes -:- -:- -:- -:- -:- -:- -:- -:-

**Far Eastern Addresses:**

GENERAL ELECTRIC COMPANY (Special representative for the Far East) 23 Water Street, Yokohama, Japan

MITSUI & Co., Tokio, Japan.

BAGNALL & HILLES, Yokohama, Japan

FEARON, DANIEL & Co. } No. 4 Yuen Ming Yuen Road, Shanghai, China.
ANDERSON, MEYER & Co. }

FRANK L. STRONG, Manila, P. I.

# California-Manila-Lumber Commercial Co.

Cable Address: "HOOPTON"

Codes: Western Union, Universal Edition—Lybo
A.B.C. 4th Edition—Century

Telephone 290
P. O. Box 782

IMPORTERS OF
## OREGON PINE REDWOOD
and all kinds of Hardware

Representatives of
Leading American Manufacturers of Machinery, Building Material, Engineering Supplies, Etc.

Representatives of

The Trussed Concrete Co., *Detroit, Mich.*
Acetylene Apparatus M'fg. Co., *Chicago, Ill.*
A. L. Canfield, *New York City.*
Contracting Plant M'fg. Co., *New York City.*
Higgins Manufacturing Co., *Newport, N. J.*
Lobee Machinery Co., *Buffalo, N. Y.*
McCray Refrigerating Co., *Kendallville, Ind.*
Morreau Gas Fixture M'fg. Co., *Cleveland, O.*
Shoel Kopf, Hartford & Hanna Company, *Buffalo, N. Y.*
South Bend Chilled Plow, *South Bend, Ind.*
J. B. Wise & Co., *Watertown, N. Y.*

*Offices: 10-11-12 LACK & DAVIS Building, Calle Echague, Manila, P. I.*

CORRESPONDENCE SOLICITED



# Warner, Barnes & Co., Ltd.

Manila, London, New York, Iloilo, Cebu, Albay, Samar, Leyte

General Merchants, Insurance and Shipping Agents
Importers and Exporters

**Steamship Agencies:**
International Sleeping Car & Express Trains Company
The Great Trans-Siberian Route
China & Manila S. S. Co., Ltd.
Bucknall S. S. Lines, Ltd.
Nippon Yusen Kaisha
White Star Line
Bibby Line.

**Express Companies**
China Express Co.
Geo. W. Wheatley Co.'s Express
United States Express Co.
Neale and Wilkinson Express Co.

**General Managers**
The Pasig Steamer & Lighter Co., Ltd.

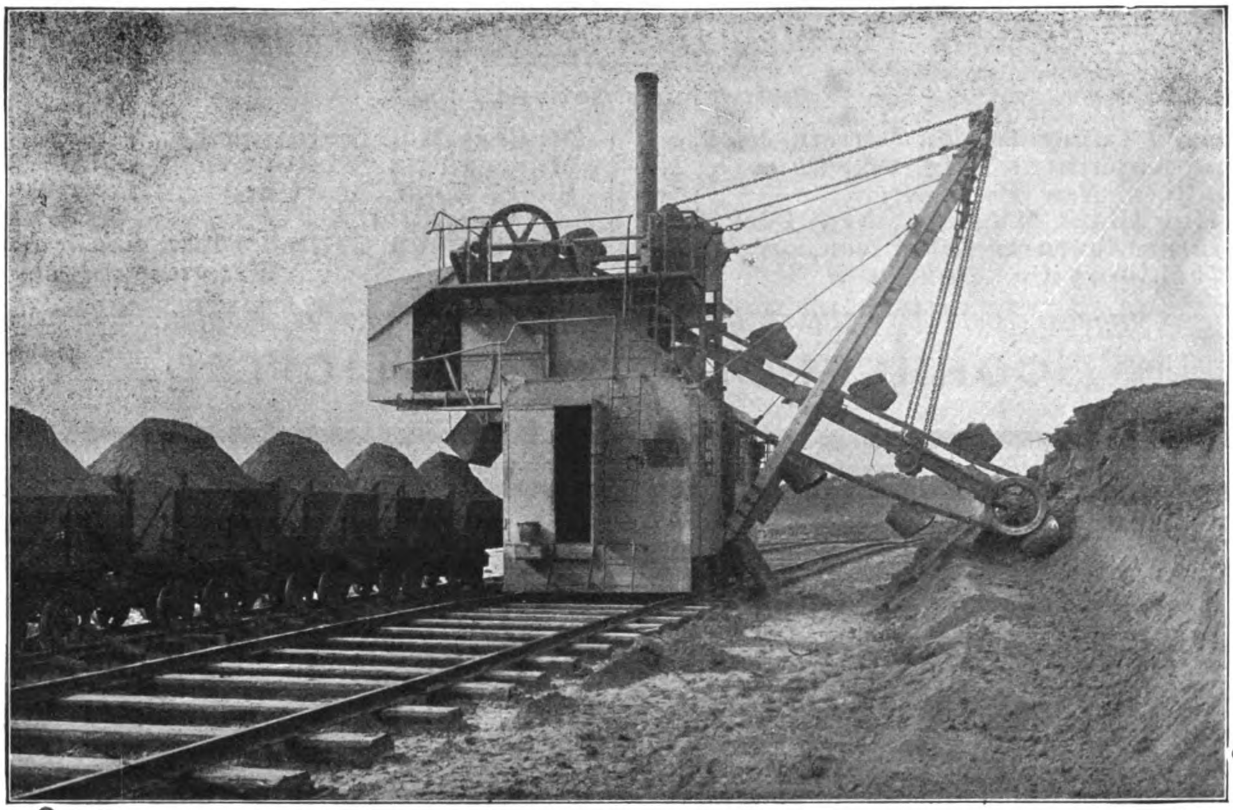
**Insurance Agencies**
Royal Exchange Assurance Corporation
Law Union & Crown Insurance Co.
State Fire Insurance Co., Ltd.
China Fire Insurance Co., Ltd.
Maritime Insurance Co., Ltd.
Western Assurance Co.
Yangtsze Insurance Association, Ltd.
Tokio Marine Insurance Co., Ltd.
Manufacturers Life Insurance Co.

Telegraphic Address:—WARNER
P. O. Box 294
Tel. Nos. 228—104—610

No. 7 Carenero
MANILA, P. I.

# MACHINERY OF ALL KINDS

## RAILWAY MATERIAL AND SUPPLIES



RAILWAY EXCAVATOR

*AGENTS FOR:*

Felten & Guilleaume-Lahmeyer Werke, Frankfort/Main, Electrical Supplies : : : :

Gasmotoren Fabrik Deutz, Cologne-Deutz, Original "OTTO" Gas and Oil Engines and Suction Gas Plants : :

Haniel & Lueg, Duesseldorf, Hydraulic and Mining Machinery, Heavy Steel Castings :

## SIEMSSEN & CO.

ENGINEERS & CONTRACTORS

SHANGHAI

HONGKONG, CANTON, HANKOW
TIENTSIN, TSINGTAU

*SPECIFICATIONS AND ESTIMATES GIVEN FOR INDUSTRIAL PLANTS OF EVERY DESCRIPTION*

All Kinds of Machine Tools, Pumps, Locomobiles, Oil Engines, Dynamos and Motors carried in stock at Shanghai

*AGENTS FOR:*

Orenstein & Koppel, Ltd., Berlin, Railway Material : : : :

R. Wolf, Magdeburg-Buckau, Patent Superheated Steam Locomobiles : : : : :

Weise & Monski, Halle/Saale, Pumping Machinery : : :

# Montol Philippine Hardwood

The following are extracts from the report of Dr. F. W. Foxworthy, of the Bureau of Science, an authority on Philippine timbers:

"MONTOL

"It is a hard, heavy, even-grained wood. It should prove suitable for corner posts, bridge timbers, railroad ties, general construction and paving blocks."

Specific gravity:—

| | |
|---|---|
| Maximum | .8447 |
| Minimum | .761 |
| Average | .8081 |

Messrs. DERHAM BROS.
Manila, P. I.

Dear Sirs:—

I take pleasure in reporting that the MONTOL HARDWOOD, as furnished by you, has stood every test in actual construction that I have given it. I find it the equal of any of the superior hardwoods of the Islands. It does not split as readily as most of the hardwoods, and possesses the strength and durability of the best of same.

Very Respectfully,
(Signed) Wm. H. RUSHTON,
Master Mechanic
M. E. R. R. & L. Co.

Manila, P. I.,
April 14th, 1910.

MONTOL C.S.D. LUMBER

TRADE MARK

**We are offering this product at from 30 to 40 per cent less than the market price of woods of similar or inferior quality.**

EXTRACT from the report of Mr. Theobald Diehl, late Purchasing Agent of the Philippine Railway Co., and now Special Commissioner in Europe for the Customs Service of the Philippine Government, dated April 19, 1910, in re MONTOL PHILIPPINE HARDWOOD:

"I honestly believe that in this wood you have an article that will fill the long-felt want for a first-class, high-grade construction and finishing timber, which can be supplied in quantities and at a reasonable price.

"I bought 400 hewn telegraph poles of MONTOL, as supplied by you, and same were put into places at the Cebu division of the railway. This happened some four years ago. While recently at Cebu I looked over the poles very carefully; they are now in place over three years, and to my gratification, I want to say that they are in first-class shape. There is not the least defect noticeable, even at the point where the posts come out of the ground, that is, the place where damp rot and deterioration first set in. As a matter of fact, these MONTOL poles show better wear than a good many Ipil posts that we have in that division."

6 Duque de Alba **DERHAM BROS.** 'Phone 316

MANILA, P. I.

## CADWALLADER GIBSON LUMBER CO.

WHOLESALE AND RETAIL DEALERS AND EXPORTERS IN

## PHILIPPINE MAHOGANY

**Hardwood Timber for Bridge Construction and Railway Sleepers a Specialty : : : :**

We Own Two Big

**Sawmills and Furniture Factory**

**Gibson Furniture**

BLINDS, SASH, DOORS, ETC., MANUFACTURED BY

**Up-to-date Machinery**

OFFICE FIXTURES, SHOW WINDOWS, STORE FURNISHINGS, DESKS, ETC.

ESTIMATES FURNISHED

Yard Office . . . . . . { 302 CALLE SAN MIGUEL, MANILA
SIMAY, BATAAN, P. I

Cable Address: CAHOY

Codes: Western Union, Universal Edition; A. B. C.

## Export and Import Lumber Co.

SUCCESSORS TO

## The B. W. Cadwallader Company

P. O. Box 433 MANILA, P. I. Telephone 363

**Importers** of Oregon Pine Lumber

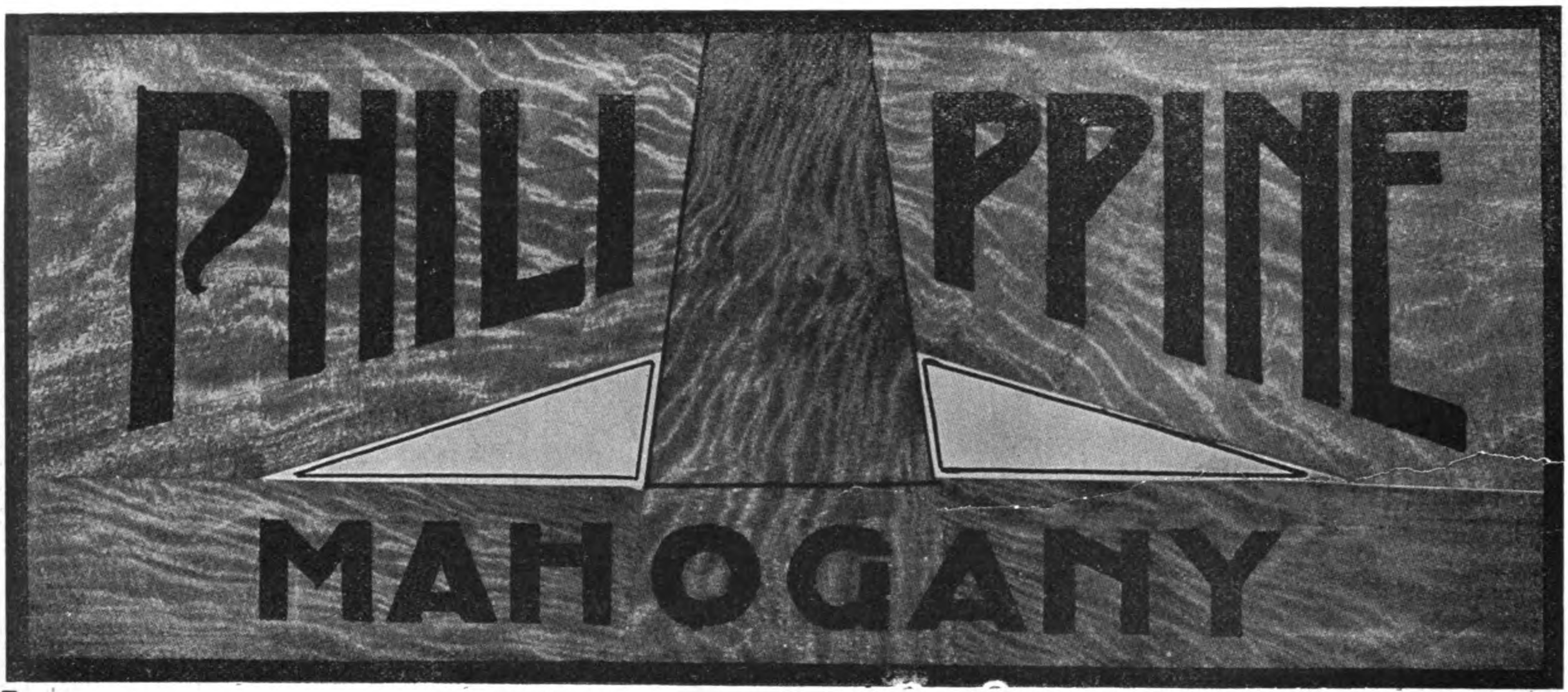
**Exporters** of Philippine Hardwood Lumber, Sleepers and Timber for Railroad Construction, etc. : : : : : :

**W. W. PAYNE**

President and General Manager

Mills and Office

51 CALLE TANDUAY MANILA, P. I.




**FOR FURNITURE, CABINET WORK, INTERIOR TRIM, CAR BUILDING, ETC.**

Location of Forests and Mill at Sagay, Negros Occidental, Island of Negros, P. I.

Capacity of Mill: 100.000 Ft. B. M. per Day

# INSULAR LUMBER CO.

Lack & Davis Bldg.
Calle Echague, Manila, P. I.

No. 20 Broad St.,
New York City

---

Cable Address:
"BANGA"—A. I. CODE

Main Office:
ZAMBOANGA, MINDANAO, P. I.

## The Port Banga Lumber Co., Inc.

**Mills: Port Banga, Sibugay Bay, Mindanao, P. I.**

We are cutting at present:

Yacal
Molave
Guijo
Lumbayao
Pagatpat

WHOLESALE ONLY!

Posts, Pilings, R. R. Ties, Bridge Timber, Telegraph Poles.

Telegraph Cross Arms, and Lumber cut to dimensions.

Temporary Piles of 4 Group timber 10 to 70 ft. long.

Permanent Piles of Liusin, Molave, 10 to 70 feet long.

Total amount cut and manifested 12 months ending October 1st, 1908, 3,034,651 Board Feet.

The Harbor at Port Banga, where largest Ocean-going vessels can enter, is safe at all seasons of the year and anchorage is good. Ships always promptly loaded and we give absolute guarantee that material will be delivered alongside as rapidly as ship can take it. Ship Charter can be based on these facts. One to two ships per month calling at Port Banga makes it possible to make prompt deliveries.

---

Telephone No. 551
P. O. Box No. 281

Cable address:
"GREILSAMMER"

## Greilsammer Bros.

### General Importers
### Wholesale and Retail Jewelers

Diamonds,
Jewelry,
Watches.
Sterling and
Plated Ware

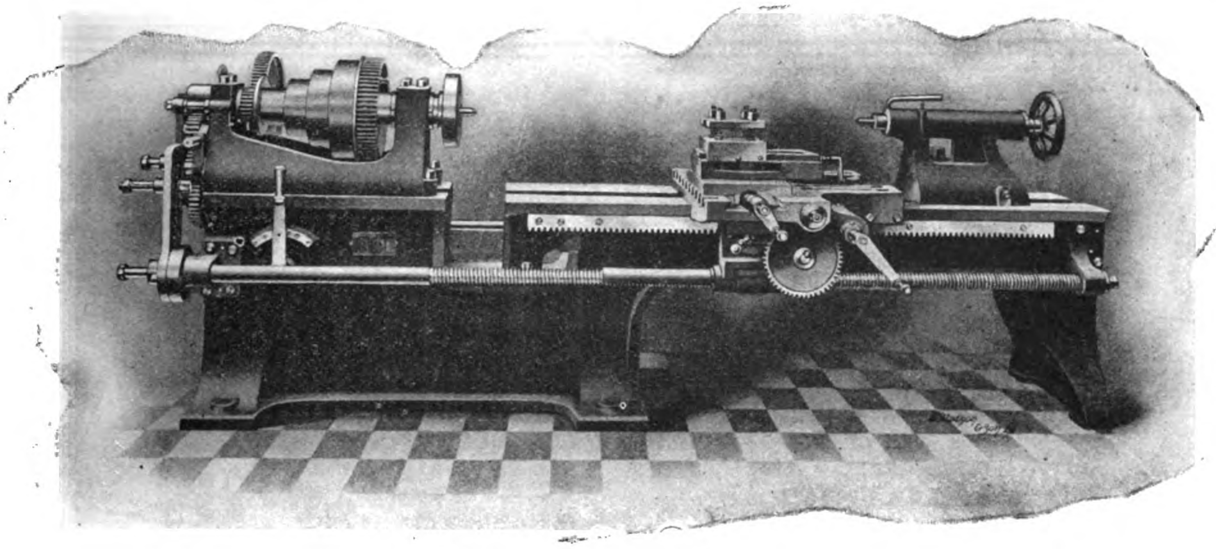
34-36 Escolta Manila, P. I.

# JARDINE, MATHESON & CO., LTD.

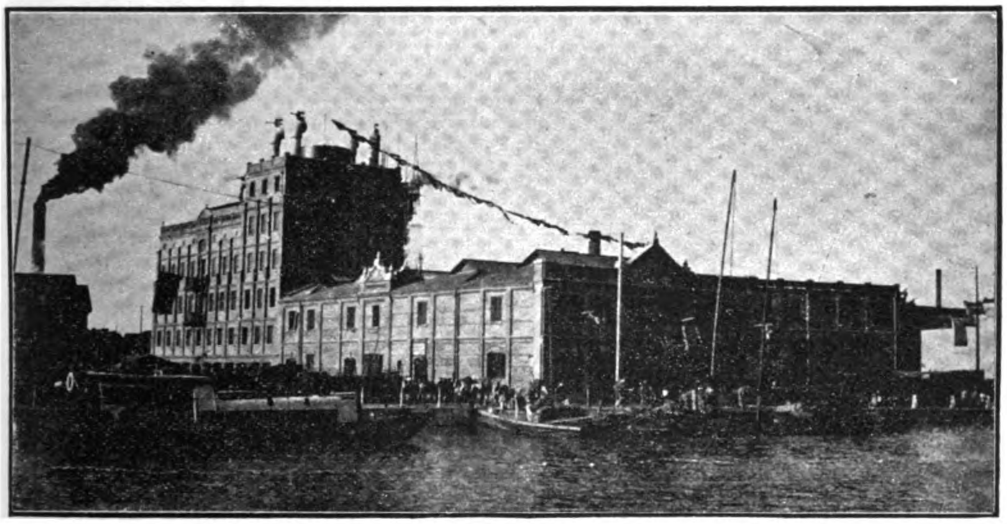
## HONGKONG AND CHINA

**MACHINERY DEPARTMENT**
Peking Road, Shanghai

**ENGINES, BOILERS, PUMPS AND ELECTRICAL MACHINERY FOR ALL PURPOSES, ENGINEERING AND ELECTRICAL SUPPLIES IN STOCK**



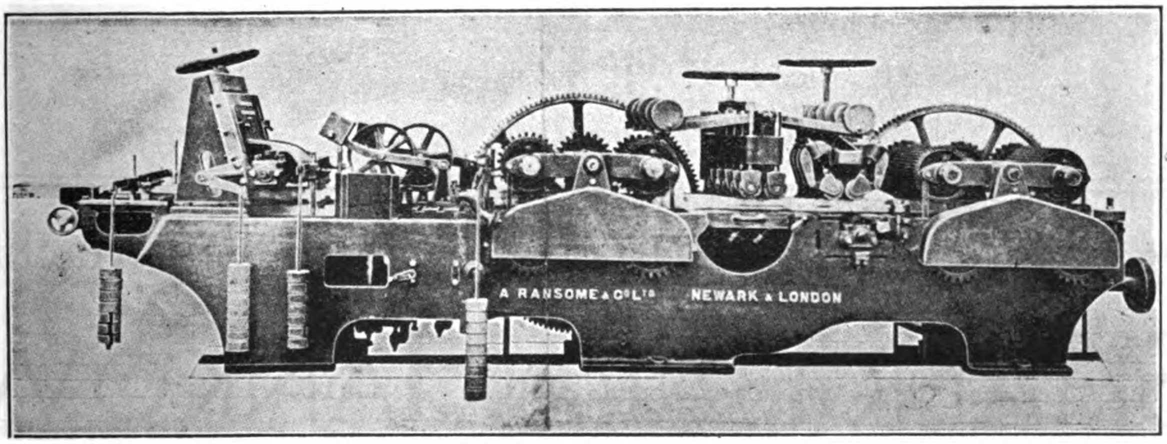
LATHES AND TOOLS OF ALL KINDS



YUEN CHUNG FLOUR MILL, SHANGHAI—MACHINERY FURNISHED AND INSTALLED—JARDINE MATHESON & CO.

**SOLE AGENTS FOR:**

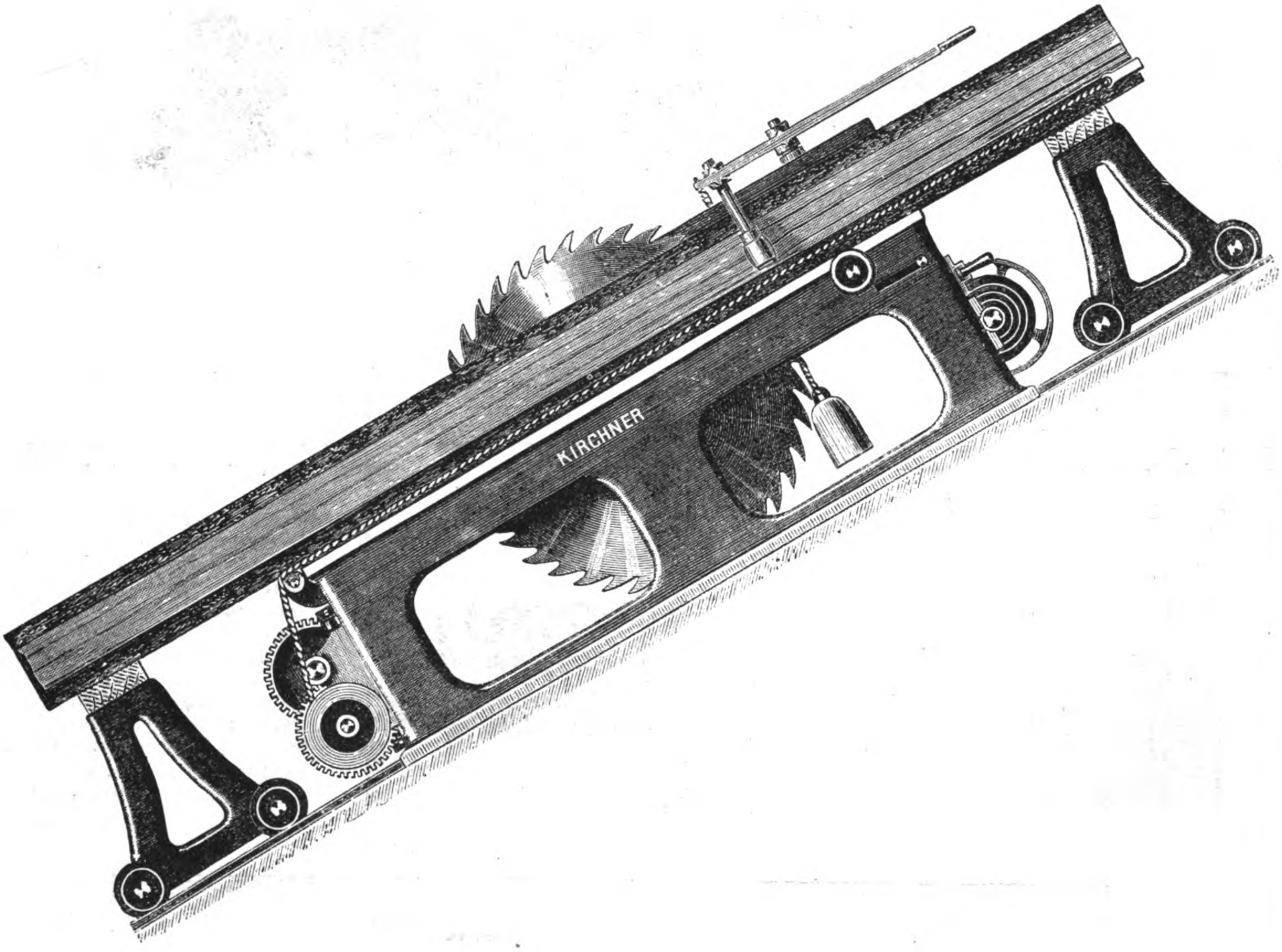
Messrs. Chas. Price & Co.
Messrs. J. B. White & Bros.
Messrs. Gwynnes, Limited.
Messrs. Marshall Sons & Co., Ltd.
Messrs. Merryweather & Sons, Ltd.
Messrs. A. Ransome & Co., Limited.
Messrs. Meredith Jones & Sons, Ltd.
Messrs. O. & W. Ormerod.
The Westinghouse Brake Co., Ltd.
Messrs. Bruce Peebles & Co., Ltd.
The British Northropp Loom Co.
Messrs. Joshua Hendy Iron Works.
Messrs. Henry Livesey, Limited.
The Barber Asphalt Roofing Co.
Messrs. Thos. & Wm. Smith, Limited
The Kitson Lisght Foreign Supply Co.
North British Locomotive Co., Ltd.
Etc.




HIGH-SPEED FLOORING AND MATCH BOARDING MACHINE

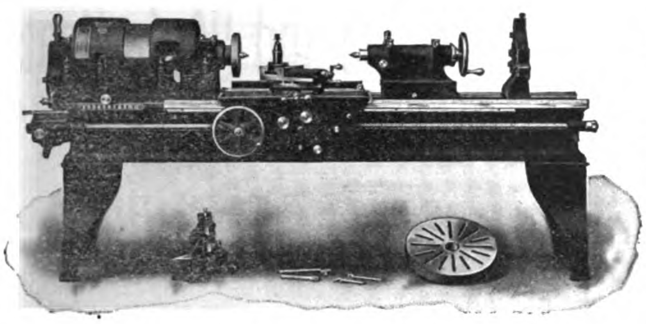
# SHANGHAI MACHINE COMPANY

Cable Address: "FERRO"




Large Stock of Kirchner's Wood Working Machines

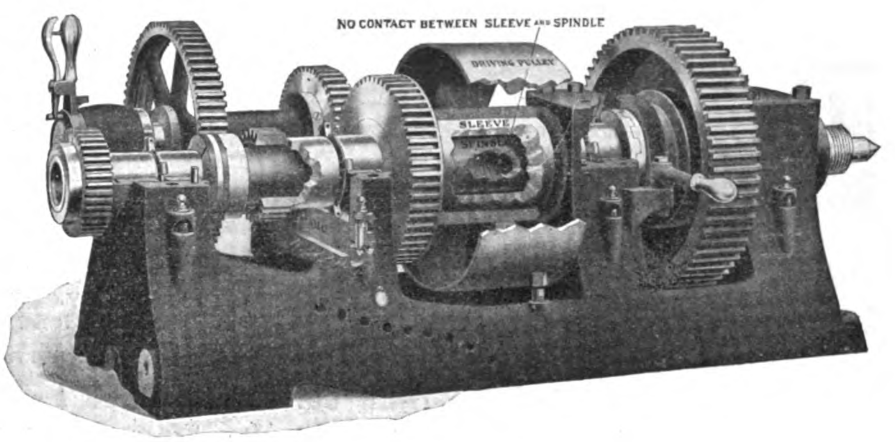
SHANGHAI, HANKOW



The 9" centers "Patent Head" Engine Lathe shown opposite has a single driving pulley 12" in diameter for a 5" belt. It has all steel quick change gears, giving 40 changes of feed and thread without removing a single gear. The bed is wide, deep, and stiffly braced internally. The tailstock is held by four clamping bolts, all operated from the top, and the tailstock spindle is locked in absolute alignment by plug clamps. The carriage takes full length bearing upon the front and rear outside ways of the bed. The bridge is 9" wide, and is supported directly beneath the tool by a bearing on the inside way of the bed.

The "Patent Head" is shown in the sectional cut. It is designed to take advantage of the increased efficiency of present high speed steel tools. This head delivers increased power to the lathe, and has longer life than other types. Power is applied to a wide faced driving pulley of large diameter, mounted upon a sleeve revolving in the two central bearings of the head. The lathe spindle revolves in the two outer bearings, and passes through this sleeve without touching it; thus there is no belt pull on the spindle. The sleeve can be clutched to the spindle for direct belt drive, and for slower speeds there are two sets of back gears.

**WE MANUFACTURE ENGINE LATHES WITH EITHER "PATENT HEAD" OR CONE HEAD IN SIZES FROM 7" TO 24" CENTERS. WRITE FOR CATALOGUE.**




# THE LODGE & SHIPLEY MACHINE TOOL COMPANY

**CINCINNATI, OHIO, U.S.A.**

**FOREIGN AGENTS:**—Chas. Churchill & Co. Ltd., London, Birmingham, Manchester, Glasgow, Newcastle-on-Tyne; Werner Hult, Helsingfors; Ernst Krause & Co., Vienna; V. Lowener, Copenhagen, Christiania, Stockholm; Alfred H. Schutte, Barcelona, Bilbao, Brussels, Cologne, Milan, Paris; Schuchardt & Schutte, Berlin, Budapest, St. Petersburg; R. S. Stokvis & Zonen, Ltd., Amsterdam, Rotterdam, Gronigen, Brussels. Andrews & George, Yokohama; Bevan & Edwards, Propty. Ltd., Melbourne; Adolfo B. Horn, Havana.

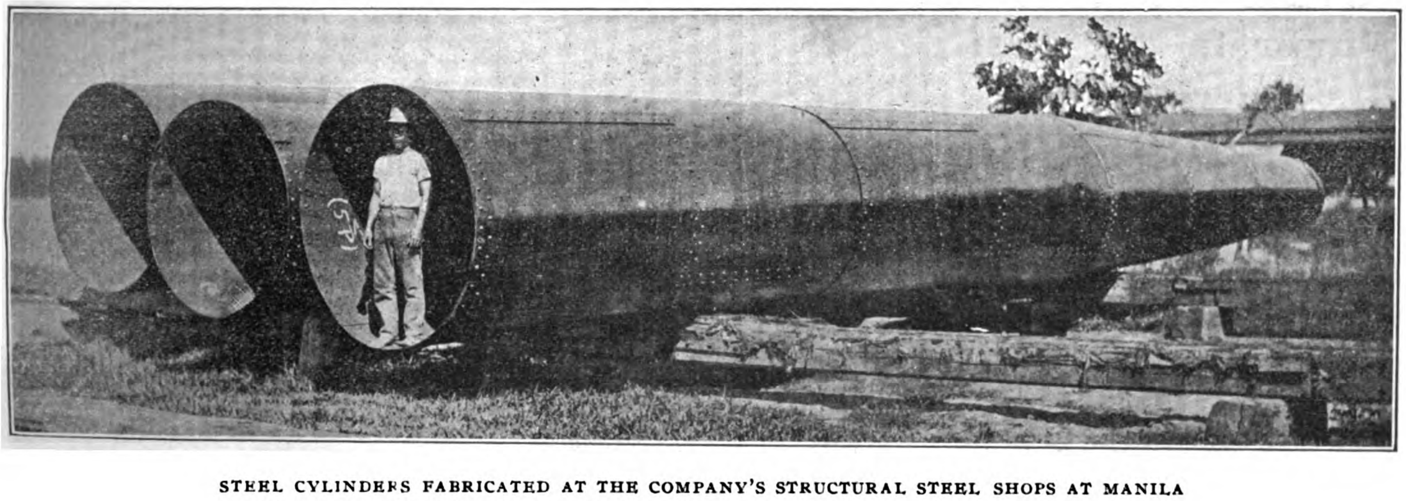
**AGENTS WANTED FOR TERRITORY IN WHICH WE ARE NOT ALREADY REPRESENTED**

# ATLANTIC, GULF & PACIFIC COMPANY

(INCORPORATED)

## ENGINEERS AND CONTRACTORS

Offices: NEW YORK, SAN FRANCISCO, SEATTLE, MANILA



STEEL CYLINDERS FABRICATED AT THE COMPANY'S STRUCTURAL STEEL SHOPS AT MANILA

MANUFACTURERS OF

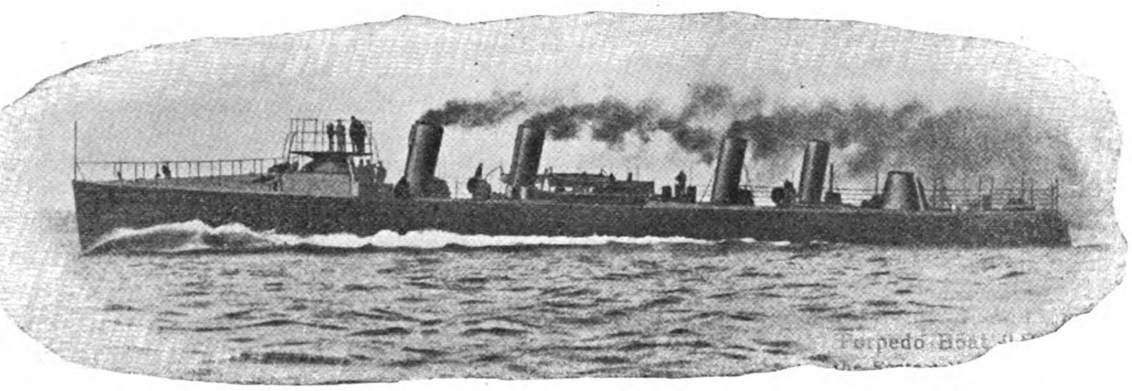
## STRUCTURAL STEEL

Manufacturers and Builders of
**STEEL BRIDGES, TANKS, PIPE LINES, WHARVES**

Manufacturers of
**RIVETS, BOLTS, NUTS, WASHERS, ETC., ETC.**

# Torpedo Boats, Destroyers, Yachts, Launches, Tow-Boats and "Auto Boats"

BUILDERS OF STEEL OR WOODEN CRAFT FOR ANY CLASS OF SERVICE



TORPEDO BOAT "BAILEY," THE FASTEST VESSEL IN THE UNITED STATES NAVY—205 FEET OVER ALL; 19 FOOT BEAM; 6 FOOT DRAUGHT; 235 TONS DISPLACEMENT; H. P. 5600; SPEED 30 KNOTS—BUILT BY THE GAS ENGINE & POWER CO. AND CHARLES L. SEABURY & CO., (CONSOLIDATED).

OUR "SPEEDWAY" LAUNCHES HOLD THE RECORD FOR SPEED AND ENDURANCE—RECORD BREAKING LAUNCHES:—ARGO, ARTFUL, THERE-SHE-GOES, ZIPALONG, JAPANSKY, WINNINISH, COLONIA, QUEEN, SKEETER

**HIGH SPEED TRIPLE EXPANSION ENGINES ARE OUR SPECIALTY**

WE HAVE BUILT THE U. S. TORPEDO BOATS "BAILEY," "WILKES" AND "STEWART," 31 KNOTS, ALSO SEVERAL HUNDRED YACHTS, WITH RECORDS FROM 10 TO 22 KNOTS.

**TWENTY YEARS' EXPERIENCE IN THE DESIGNING, CONSTRUCTION AND EQUIPMENT OF VESSELS**

**GAS ENGINE & POWER CO. and CHARLES L. SEABURY & CO., Consolidated**

**MORRIS HEIGHTS, New York City—Member National Association of Engine and Boat Manufacturers**

**FRANK L. STRONG, General Agent, MANILA, P. I.** CATALOG AND ESTIMATE ON APPLICATION

# Shanghai Gas Company, Ltd.

**Offices: THIBET ROAD** **Show Room: NANKING ROAD**

**To obtain Light, Heat or Power in the most economical way**

## USE GAS

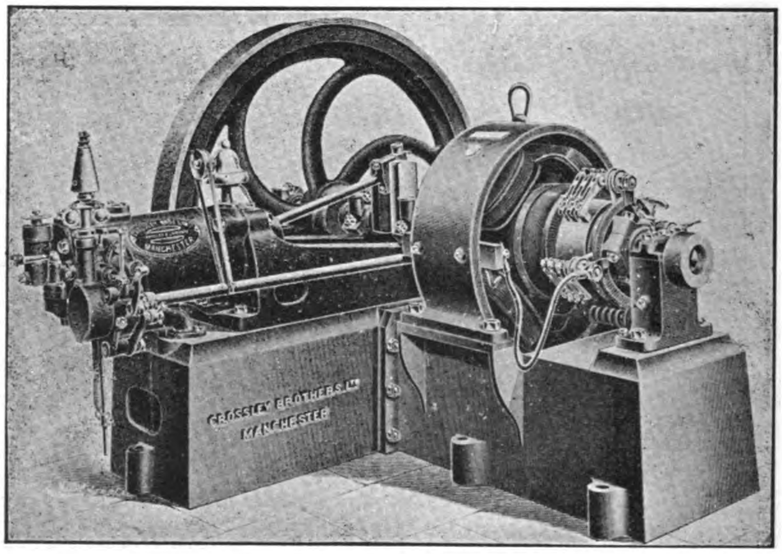
The Shanghai Gas Company let on loan (free) Gas Cookers, Gas Fires and Radiators.

Also High Power Lamps and Geysers on hire.

Large assortment of Welsbach Gas Fittings always kept in Stock.

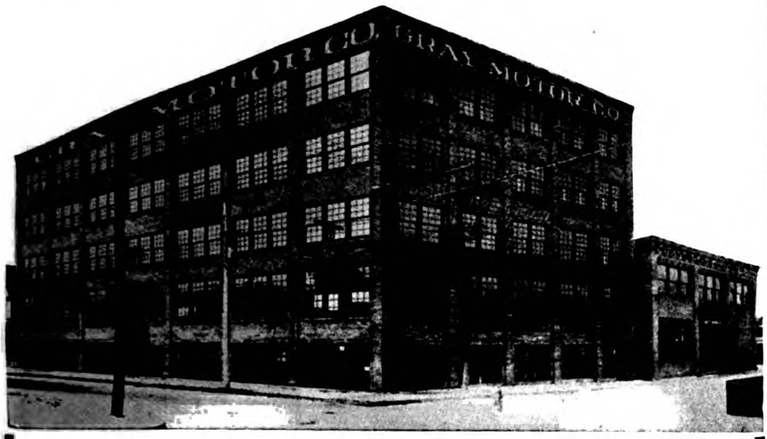
**APPLY FOR PARTICULARS**

威麟



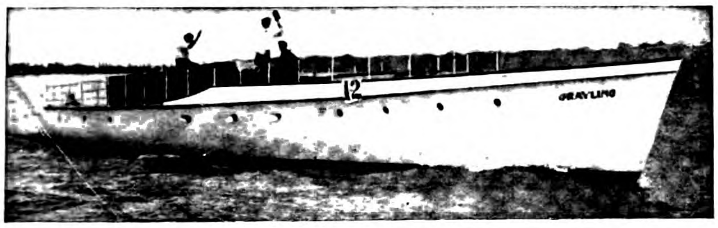
4 KILOWATT PLANT, DIRECT CONNECTED TO CROSSLEY ENGINE

**Agents for CROSSLEY BROS.**

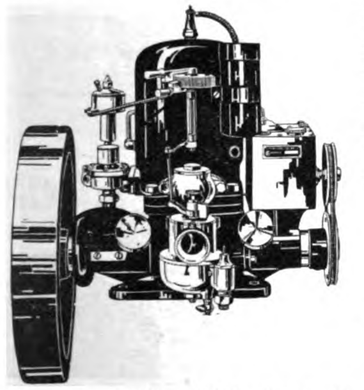


**GRAY MOTORS are made in the largest and most up-to-date plant in the world devoted exclusively to the manufacture of 2-cycle marine motors.**

We build nothing in our plant but GRAY motors. Our plant was built and equipped to build GRAY Motors and *nothing else.* We *concentrate* our entire attention, ability and capital to build the *best* motor it is possible to build, and sell it at a price that gives us the *greatest volume of 2-cycle marine business in the world.* When you get a GRAY Motor, you get the benefit of all our concentration at a price made possible only by the enormous volume of our business.




*The Fastest Cruising Motor Boat in the World* of its length and beam, the yacht Grayling, is equipped with three GRAY MOTORS.



*Features of Gray Motors:*
Fuel Economy.
Long Life.
Every part absolutely interchangeable.
Mechanical pump lubricator.
Sparl coil on cylinder.
Starts without cranking.
Long, high grade, interchangeable bearings, cylinder, piston, piston rings are ground to a mirror finish giving perfect compression. Ball thrust bearings.
Oil ring on cranks, elevated gear driven commutator, bronze gear driven pump, Krice or Schebler carburetor.

*No other motor*, high price or low price, includes all these features.

1, 2 and 3 cylinders 3 to 36 horse power

*Heavy Duty Motors for Fishing Boats* and commercial purposes. Gray Motors are made in styles and sizes suitable for *any* boat under *any* conditions.

All prices of Gray Motors include complete marine and electrical outfits, with batteries all wired up, duplicates of parts subject to the most wear and complete outfit of high grade tools. The entire outfit is carefully packed in a water proof cover and excelsior and securely fastened in an iron bound box.

The Gray Motor Company maintains a Department of Foreign Service which gives every inquiry prompt, careful and courteous attention. Correspondence is conducted in any language. Write today for catalog and full information.

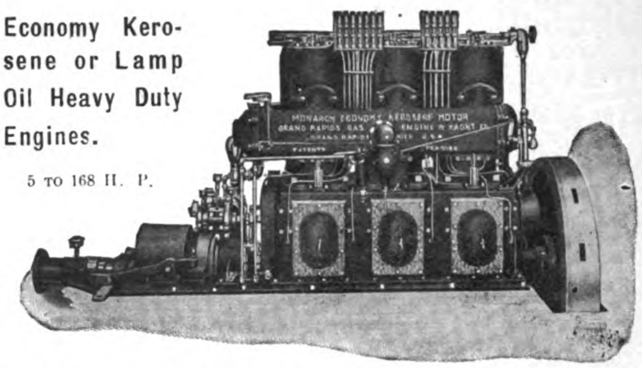
# GRAY MOTOR CO.

**88 Leib St., Detroit, Mich., U. S. A.**

**MONARCH**

Economy Kerosene or Lamp Oil Heavy Duty Engines.

5 TO 168 H. P.



**GRAND RAPIDS GAS ENGINE & YACHT CO.**

GRAND RAPIDS, MICHIGAN, U. S. A.

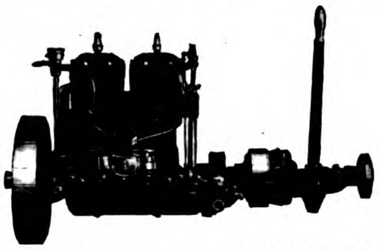
Code address: "Swinjkerp," Michigan.

# FERRO The World's Standard Boat Motor

In your choice of a motor boat, the deciding factor should be the engine. On it depends your ultimate pleasure and satisfaction in boating.

By choosing the Ferro Motor, you take no chance. You know that you are getting a marine engine which, in actual service, has proven itself the world's standard.

The Ferro design embodies the most advanced ideas in engine construction. The materials and workmanship that enter into every process of Ferro manufacture are up to the highest standard of quality.



Ferro motors are built to meet conditions in the Far East. They are today giving satisfaction in all parts of the world.

Write us for full information on boats, motors and equipment. We can help you select your exact requirements. Ferro literature sent free on request. A complete line can be secured from the nearest office of this paper.

**We Want Agents**

We still have some favorable territory for which we have no selling agents. If you are in a position to take up the sale of Ferro Motors, write us in full.

The Fastest Boat in Auckland Harbor, New Zealand, Equipped with 25-HP Ferro Engine

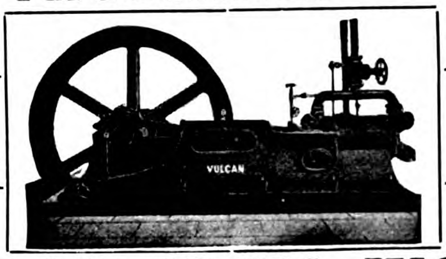
**THE FERRO MACHINE & FOUNDRY COMPANY**

Largest Marine Engine Builders in the World.

Main Offices, 820 Superior Ave., Cleveland, O., U. S. A

New York Office, 44 Cortlandt St., 2nd Floor

# ICE MACHINES OF ANY DESIRED CAPACITY

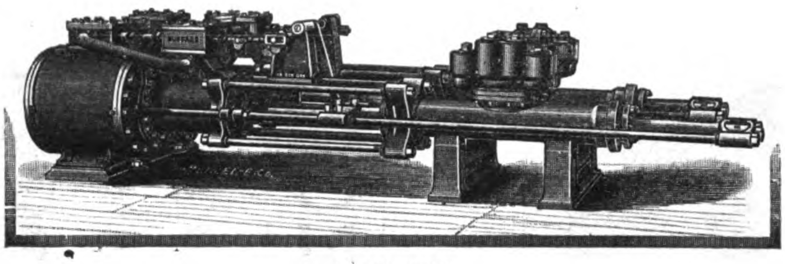
VUL  CAN


# VULCAN IRON WORKS

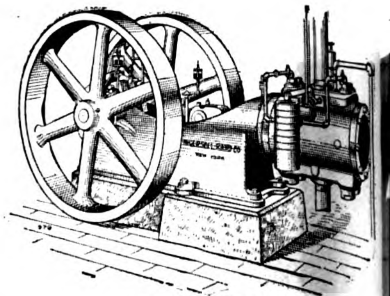
**San Francisco, California, U. S. A.**

SEND FOR CATALOGUE Cable Address: "VULCAN" San Francisco

BUNDY HEATER



MINING PUMP



AIR COMPRESSOR

COMPRESSED AIR DRILL


# *Machinery and Engineering Supplies*

## Railway Materials, Electric Light and Power Plants

**GENERAL ELECTRIC CO., N. Y.**
Electric Machinery.

**BRITISH THOMSON-HOUSTON CO.,**
Electric Railway & Power Plants.

**GOULD'S STORAGE BATTERY CO.,**
Electric Storage Batteries.

**THE McCONWAY & TORLEY CO.,**
Janney Railway Couplers.

**DEMPSTER, MOORE & CO.,**
Machine Tools.

**H. W. JOHN'S-MANVILLE CO.,**
Asbestos Materials.

**THE DE LA VERGNE MACHINE CO.,**
Refrigerating Plants.

**WHEELER CONDENSER & MACHINERY CO.,**
Condensers, etc.

**THE AVERY MANUFACTURING CO.,**
Traction Engines, etc.

**KEUFFEL & ESSER CO.,**
Engineers & Surveyor's Supplies.

**KELLOG SWITCHBOARD & SUPPLY CO.,**
Telephone Apparatus, etc.

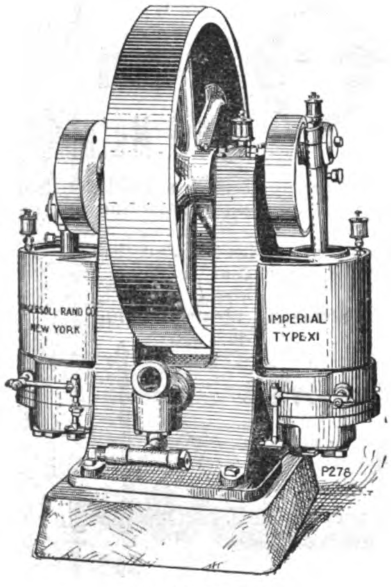
**GREAT NORTHERN ELECTRIC CO.,**
Telegraph Instruments, etc.

**ESTIMATES AND QUOTATIONS ON APPLICATION TO**

# FEARON, DANIEL & CO.
# ANDERSON, MEYER & CO.

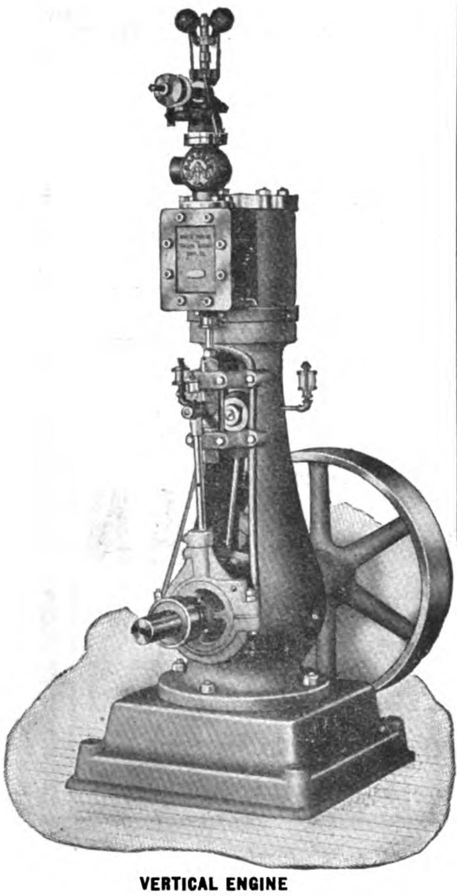
**SOLE REPRESENTATIVES -:- ENGINEERING DEPARTMENT**

**SHANGHAI, 4-5 YUEN-MING-YUEN ROAD**

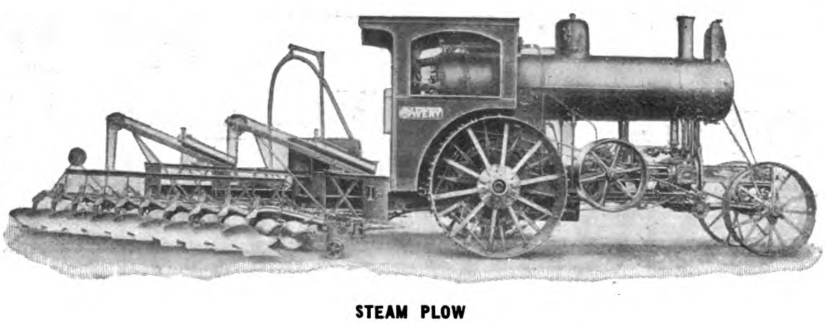




AIR COMPRESSOR

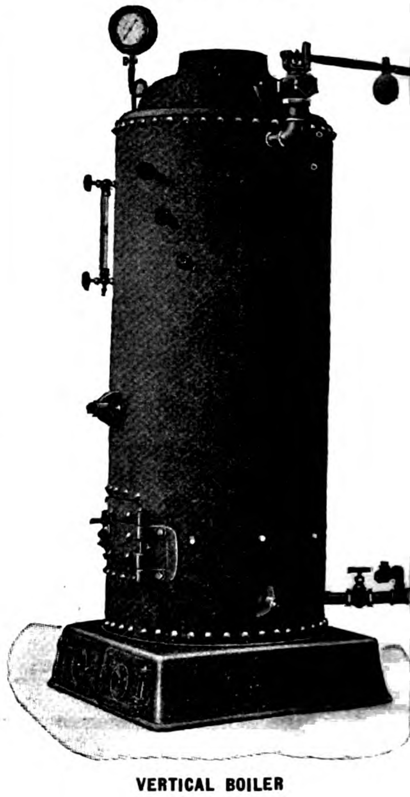
COMPRESSED AIR DRILL



VERTICAL ENGINE



STEAM PLOW



VERTICAL BOILER

# VELUVINE

BULLDOG-PAINTS AND VARNISHES

BULLDOG-brand.

F. A. v. d. LOO & Co
Shanghai

## IS THE PAINT OF THE FUTURE

## For Out and Indoor Work of Every Kind

RAILROADS
TRAMWAYS
BARRACKS
RESIDENCES
SCHOOLS
YACHTS
STEAMSHIP
COMPANIES
HOSPITALS
HOTELS
BUILDINGS
FACTORIES

A NEW and perfected Veluvine paint superseding Varnish, with remarkable spreading, elastic and weather resisting properties. **One coat equals two coats of common paint and one of varnish.** Sanitary. Washable. Will not crack. Will not peel. Will not blister. Will not fade. Twelve months' guarantee given by the manufacturer. Saves Time, saves Labour, saves Varnish, saves Money.

**ONE GALLON PROPERLY APPLIED WILL COVER ABOUT 90 SQUARE YARDS**

Veluvine paint spreads like best wearing body Varnish, and **dries slowly** in the same way, but is far more elastic, and therefore does not crack, as even the best Varnishes will. **Veluvine paint is not an enamel,** and should not be compared with enamels for price. It is much **more economical, more durable** and covers **more surface**. Veluvine paint is the only satisfactory paint for Galvanised Iron and Galvanised Steel.

Any colour not included can be matched. Special quotation on application with sample of exact tint required.

## Prices Quoted on Application

General Agents for CHINA, JAPAN, SIAM

# F. A. VANDER LOO & CO.

2 Jinkee Road ✤ Shanghai, China ✤ Telephone 2530

*Agents for the Philippines: Messrs. SPRÜNGLI & CO.*

## A PERFECT BOILER FEEDER

THE

**PENBERTHY**

**Automatic**

**Injector**

This Injector takes the place of steam pumps (costing less) and taking up less room. It operates between pressures of 25 and 170 pounds. Lifts vertically 22 feet and handles hot water 125 deg. Fahr.

SALES 550,000 in the United States and Foreign Countries. Send for Catalog

"XL-96" EJECTOR

**EJECTOR**

Can be used wherever water or other liquids are to be raised or lifted and transferred to different levels.

**LIFTS 25 FEET**
**ELEVATES 100 FEET**

Agents wanted in every Country

**PENBERTHY INJECTOR COMPANY**

LARGEST INJECTOR MANUFACTURERS IN THE WORLD

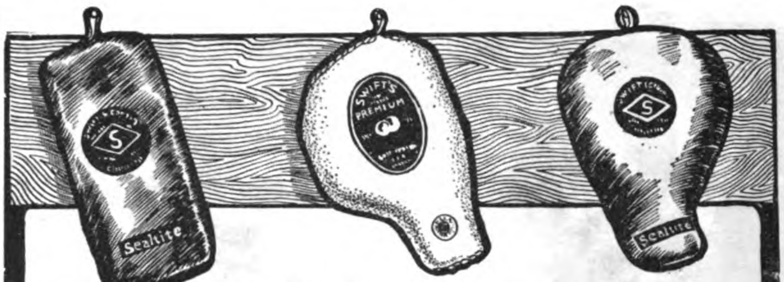
DETROIT, MICHIGAN - - - - - U. S. A.

356 Holden Ave.

AGENTS:

W. H. WILCOX & CO., London, E. C.

JOHN KING & CO., Calcutta.
MALCOMESS & CO., East London, S. A.




**Swift's**
Sealtite Wrapped
**Premium Hams** and **Bacon**

are proof against all climatic changes. Selected in the first place from the finest corn-fed young porkers, Swift's Premium Hams and Bacon are mild cured—sweet—juicy—and full flavored.

U.S.Gov't Inspected.

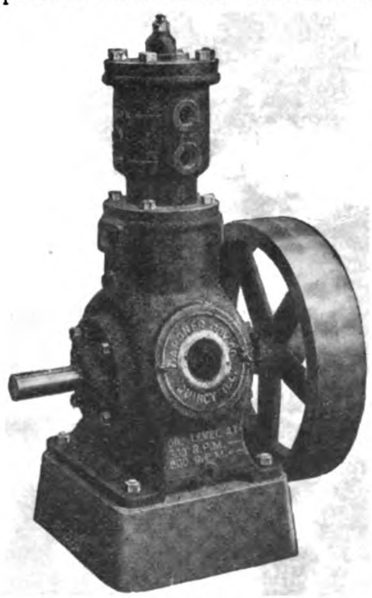
Swift & Company, U.S.A.

ORIENTAL HEADQUARTERS

SWIFT & COMPANY - - - - - No. 32 Nanking Road, Shanghai
WM. H. ANDERSON & CO., - - Foot Santa Cruz Bridge, Manila

## GARDNER AIR COMPRESSORS

This month we show our new vertical high speed air compressor—the most convenient machine for compressing air yet introduced. Enclosed, self oiling, noiseless. Piston makers, complete stroke—so there is no clearance in cylinder. All bearings renewable. No cross heads or stuffing boxes. Extremely simple, anyone can operate it. Merely put oil in the crank case, turn on the power and the machine attends to itself. Unequalled for small units. Made single and duplex from 1 cu. ft. to 80 cu. ft. capacity. Especially fine for garage service.



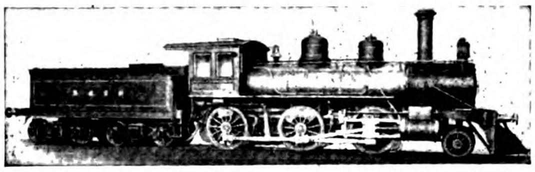
**The Gardner Governor Co.**

QUINCY, ILLINOIS, U. S. A.

## Baldwin Locomotive Works

Principal Offices and Works:
PHILADELPHIA, PA., U. S. A.
Cable Address: "Baldwin, Philadelphia"

*Agents for China: ARNHOLD, KARBERG & CO.*
*Agents for Japan: FRAZAR & SALE, Yokohama*



Builders of
**LOCOMOTIVES**
of every description

Including
**ELECTRIC LOCOMOTIVES**
**ELECTRIC TRUCKS**

## Standard Steel Works Co.

HARRISON BLDG., PHILA., PA., U. S. A.

SOLID FORGED AND
ROLLED STEEL WHEELS

STEEL TIRED WHEELS, FORGINGS

STEEL AND IRON AXLES, CASTINGS

ELLIPTIC AND HELICAL SPRINGS

cial Supplement of
THE FAR EASTERN REVIEW
June, Nineteen Hundred and Ten

## His Highness, DUKE K'UNG.

**The lineal descendant (of the 76th generation) of Confucius. A tall, strongly made, superb representative aristocrat of the Chinese race, with an unbroken lineage extending over 24 centuries. The title is the oldest in the world, and one of the very few in China descending "without diminution" from father to son, Duke K'ung is progressive, and has founded a school at the ancestral home in which English is taught. He resides at Choufou in Shantung, where the Great Teacher lived, taught and lies buried. His Late Majesty, King Edward, sent his photograph to the Duke, who prizes it as one of his most valued possessions.**

THE FAR EASTERN REVIEW
COMMERCE ❁ ENGINEERING ❁ FINANCE

VOL. VII. MANILA, P. I., SHANGHAI, AND YOKOHAMA, JUNE, 1910 No. I.

# NEUTRALIZATION, EXTENSION, OR COERCION?

When Mr. Knox, the American Secretary of State, proposed the neutralization of the Manchurian Railways as the surest and safest way of preserving to China the undisputed enjoyment of her sovereign rights in the Three Eastern Provinces, of insuring the practical operation of the Open Door and of contributing to the peace of the world by eliminating one of the possible causes of future dissensions, his plan was ridiculed and derided as unpracticable, and rejected by the interested powers as opposed to their schemes for political and commercial aggrandizement. Both Russia and Japan protested most emphatically against any such interference with their acquired rights, and European opinion, with almost unanimous accord, greeted the scheme as a diplomatic blunder. But, as Mr. Knox remarked, he did not expect that his scheme would meet with immediate success, and hardly hoped for a definite answer for several months. So he, at least, was not disappointed. The general opinion is that his scheme has failed, and the episode past and buried, only to be remembered by political opponents who desire to cast discredit for what they prematurely term his errors of diplomacy. But despite all the criticisms, disapprovals, and general decrying of the scheme, time will demonstrate the wisdom of Mr. Knox's diplomacy. Sooner or later, the interested parties will again be compelled to face the issue, and if foreign professions of friendship to China and the Open Door are sincere, other nations will lend their support to the Knox proposal as the only way to preserve peace and the integrity of China. Indeed, unless all signs fail, the time is not far distant. In fact, certain forces are already active hastening the day when a crisis will come in the affairs of China arising out of the Manchurian situation, where neutralization is the only alternative to coercion.

The Port Arthur and Talienwan Agreement of March 27th, 1898, providing for the lease of the Liaotung peninsula to Russia, stipulates, in Article III, that the duration of the lease shall be 25 years from the day the treaty is signed, but it may be extended by mutual agreement between Russia and China. Article VIII covers the extension of the Chinese Eastern Railway to include a branch to Talienwan, subject to the same conditions as the main agreement of 1896. This provided that the Chinese Eastern Railway would revert to China at the expiration of 80 years, and may be repurchased at the end of 36 years. By the Treaty of Portsmouth, Russia's rights were transferred to Japan and officially recognized by the Chinese Government in 1905.

THE COMMANDING OFFICERS OF THE MANCHURIAN MODERN ARMY, (EX-VICEROY HSU IN CENTER)

(Continued on page 3.)

# THE FAR EASTERN REVIEW

GEO. BRONSON REA, M. E.

PUBLISHER

WILLIAM CROZIER, Editor.

COMMERCE :-: ENGINEERING :-: FINANCE

A Monthly Review of Far Eastern Trade, Finance and Engineering, Dedicated to the Industrial Development and Advancement of Trade in the Philippines and Far Eastern Countries

PUBLICATION OFFICE:

MANILA, PHILIPPINE ISLANDS

CHINA OFFICE

WHITEAWAY LAIDLAW BUILDING

Shanghai

UNITED STATES REPRESENTATIVES:

J. ROLAND KAY CO.

Teutonic Building, Chicago, Ill.

GREAT BRITAIN:

PROBSTHAIN & CO.

14 Bury Street British Museum, London, W. C.

SUBSCRIPTION AGENTS:

| | |
|---|---|
| HONGKONG.............. | KELLY & WALSH, LTD. |
| SINGAPORE.............. | " " " " |
| YOKOHAMA.............. | " " " " |
| SHANGHAI.............. | " " " " |
| TIENTSIN.............. | TIENTSIN PRESS, LTD. |
| WASHINGTON, D. C..... | BRENTANO'S. |

SUBSCRIPTION RATES: Philippines, United States, Canada, and Mexico, $2.50 U. S. C. per year. To all other countries in the Postal Union, $3.00 per year. Single copies 25 cents, U. S. C.

ADVERTISING RATES will be mailed on application.

Communications pertaining to the Editorial Department should be addressed to THE EDITOR.

ENTERED AT POST OFFICE, MANILA, P. I. AS SECOND CLASS MATTER.

MANILA, SHANGHAI, AND YOKOHAMA, JUNE, 1910


CONTENTS


| | Page |
|---|---|
| Neutralization, Extension, or Coercion?.......... | 1 |
| Surplus Funds of the Imperial Chinese Maritime Customs Service.......... | 2 |
| Chinese Eastern Railway.......... | 4 |
| Railway Strategy in China.......... | 9 |
| New Steamers Built by the Mitsu Bishi Dockyard and Engineering Company.......... | 13 |
| Dynamic Flight.......... | 18 |
| Philippine Policy.......... | 21 |
| The Sychuan-Hupeh Railway Question.......... | 21 |
| Contracting News.......... | 22 |
| Far Eastern Railway News.......... | 23 |
| Philippine Mining News.......... | 24 |
| Far Eastern Engineering, Construction, Commercial and Financial News.......... | 25 |


# TO WHOM DOES THE LARGE SURPLUS FUND OF THE IMPERIAL CHINESE MARITIME CUSTOMS SERVICE BELONG?

The *Shanghai Times* of March 28th ulto., in an editorial on The Imperial Maritime Customs, discloses a situation in the administration of this service which gives food for thought. Dr. J. E. Fergusson, the proprietor of the *Shanghai Times*, is one of the foremost foreign authorities on Chinese political affairs, and has held the most intimate relations with many leading Chinese officials. For many years he filled the post of Foreign Secretary to H. E. Sheng Kung-pao when that official had control of all the railways in the Empire, and he also acts as Adviser to the Viceroys of the Liang Kiang and the Hu Kwang. Dr. Fergusson has long been in close touch with the central authorities at Peking and has enjoyed their confidence to a degree only surpassed by Sir Robert Hart. Dr. Fergusson, therefore, is in a position to state authoritatively the facts relating to many questions of importance, and his editorial on the Imperial Maritime Customs will be accepted as echoing the sentiments of the Chinese Government.

Dr. Fergusson, in commenting on the succession of Mr. Aglen to the post of Inspector-General left vacant by the resignation of Sir Robert Hart, says:

"It is fortunate that during these years Mr. ANGEL will be in charge, for he is a man in the prime of life and with a thorough knowledge of the routine work. He will now be called upon to solve the larger problems which surround the future of the Imperial Maritime Customs. These larger probems include the relation of the Service to the Chinese Government, the abolition of the system of Farmer-general by which the Inspector-General receives a stated sum for the collection of the revenue at each port and the transference to the Chinese Government of the large balance which, it is understood, now stands to the credit of the Service out of the unused funds allocated from each port for the support of the Maritime Customs. While these affairs were all in the control of Sir ROBERT HART there was no necessity of disturbing the arrangement, but now that a change is being made, it is high time that the public should know the internal management of the Maritime Customs. A full statement should be made public as to the amount taken over by Mr. AGLEN from Sir ROBERT HAPT and held by him as trustee on behalf of the members of the Service. Unless this step is taken there can be no possibility of establishing a closer relation between the Customs and the Chinese Government, and without such closer relationship it is difficult to see how efficient management can be continued. Mr. AGLEN is probably as unfamiliar with the inside working of the Inspector-General's office as any other man in the Service, but it is to be hoped that he will take the public into his confidence by giving in the next Annual Report a full statement of the present financial condition of the Inspectorate-General."

And here Dr. Fergusson gives the world an insight into a situation which calls for an immediate explanation.

Sir Robert Hart, in his autocratic administration of the Imperial Maritime Customs, conducted its affairs and disposed of the patronage and salaries without reference to any higher authority. The Chinese Government, it appears, set aside from the customs receipts of each treaty port a stated sum for the maintenance of the Customs Service which was periodically forwarded to Sir Robert Hart at Peking, and all disbursements for the maintenance of the service were made from the central office.

It appears, however, that the late Inspector General administered the affairs of the service so economically that a goodly surplus was left at the expiration of each fiscal year. As the years passed this surplus increased and multiplied until now, as is understood, it amounts to over ₱1,000,000, and, instead of this sum being returned to the Chinese Government as unexpended appropriations, it is deposited to the credit of the service in a London bank. The exact amount of this surplus is not known, owing to the fact that its manipulation was under the personal direction of the Inspector General and does not appear in the annual reports, or statements prepared by the auditor of the service.

The question arises, whom does this surplus fund belong to? Members of the service say that as the moneys were originally appropriated for the payment of salaries, etc., Sir Robert Hart's economy deprived them of their rightful share, and therefore, the surplus accumulated belongs to the service and should be divided proportionately amongst its members.

The Chinese Government, however, holds to the point that all unexpended appropriations revert to the Treasury at the expiration of the fiscal year, the same as in any other country. But the funds are deposited to the credit of the service in a foreign bank, and China, having no control over the service, cannot touch them.

When the British Government exacted from China the promise that so long as British trade predominates in China, the Inspector General should be a British subject, Great Britain became sponsor for the official holding that position. To safeguard British bondholders, Britain secured a lien on the post of Inspector General of Customs. Who is to safeguard China's interests, if a large unused balance is permitted to accumulate, and the sum withdrawn from her jurisdiction? Mr. Algen's course of action, as the duly accredited appointee of the British Government to administer China's customs, will be followed with great interest.

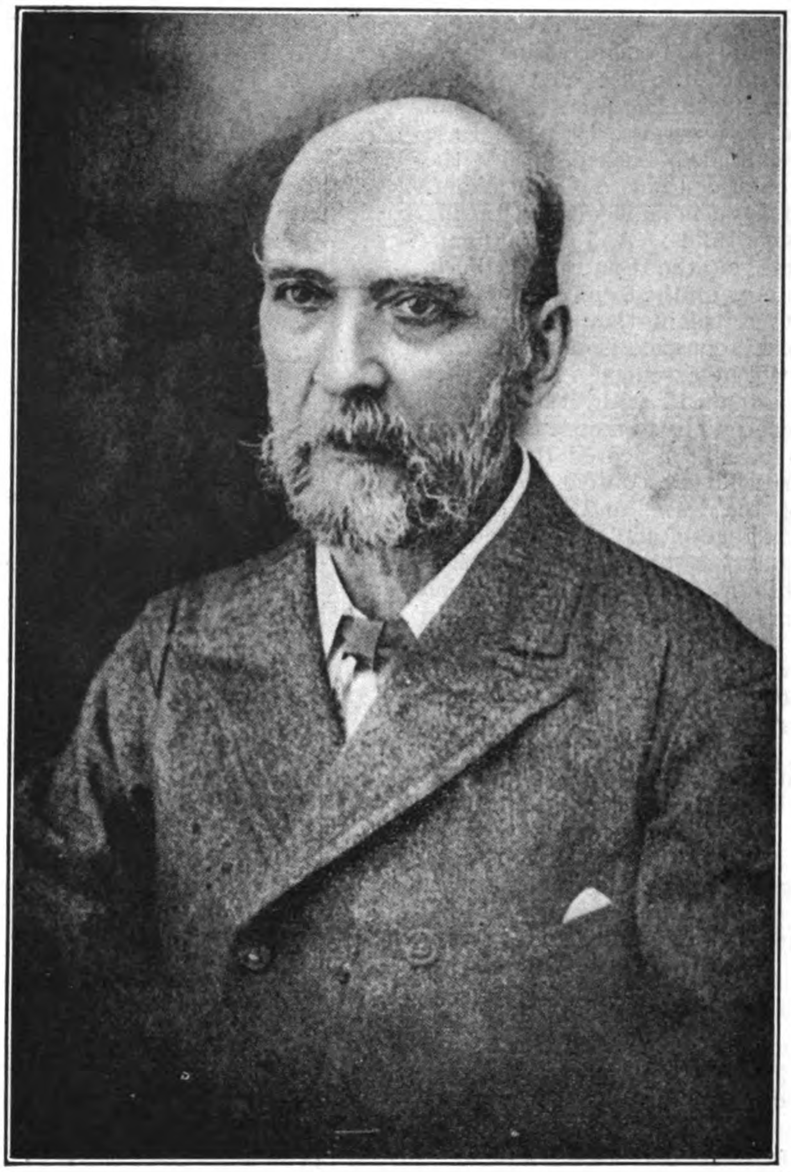
## NEUTRALIZATION, EXTENSION, OR COERCION?

*(Continued from page 1.)*

So the situation to-day is that in 1934, twenty-four years hence, China may repurchase the line at its actual cost. But previous to this, in 1923, or thirteen years from date, the lease to the Liaotung peninsula, including the ports of Dalny and Port Arthur, expires. So half the life of this lease has already expired, and there is only twelve and a half years for it to run. As leases go, this is a comparatively short life, and unless it can be extended, or a promise exacted from China that she will agree to its extension in 1923, there is little inducement for Japan to embark on any grand scheme of development.

The development of Manchurian trade arising out of the enormous expansion of the bean market is an unexpected factor in the situation which brings China face to face with a crisis years before she anticipated it would have to be met. The growth of the bean exports to Europe has been so rapid that the railway and the port facilities are inadequate to handle the traffic. Japan must double track the South Manchuria Railway for its entire length, quadruple its car capacity, and enlarge the ports of Dalny and Port Arthur, to insure a hold on her legitimate share of the traffic and prevent its diversion to Vladivostok. And the railway improvements will be of no avail, unless, at the same time, the port facilities are increased to enable steamers to carry away the cargo.

Dalny harbor will have to be deepened, new breakwaters and wharves constructed, and improvements on a grand scale carried out, to place it in a position to cope with the development of the province. The limited facilities of the port are already taxed to the utmost to handle the traffic, and, as a temporary relief, Japan has opened the naval base at Port Arthur to trade for the purpose of making use of this slight additional increase in docking and loading facilities. The capacity of the wharves at Dairen is now calculated at 9,000 tons per day, and with the completion of the East Wharf, it will be about 17,000 tons. But as half of the berths must be reserved for the smaller coast steamers the export capacity of the present improvements will be much reduced. It requires no great stretch of the imagination to foresee the day when the Manchurian trade through the port of Dalny will reach a total of 5,000,000 tons per year. The improvements in the Fushun collieries, bringing the daily output up to 5,000 tons per day, or 1,750,000 tons per annum, will be completed within a year or so, and the product of the Pensihu Yentai and other mines will bring this total up to 2,500,000 within the next five years. The growth of the bean and grain trade may be expected to divert some 2,000,000 tons through the same outlet in the same space of time, and if another 1,000,000 tons are added for sundry imports and exports, the 5,000,000 ton limit is not far off. This means that the docks must handle at least 14,000 tons of freight every day, without any allowance for delays or demurrage or the many set backs which always occur to prevent the working out of an ideal system. So it is safe to assume that the capacity of the docks must be greatly increased and the harbor extended to embrace such improvements as will double the present capacity.



SIR ROBERT HART, BART.

The original Russian plans for the port of Dalny included the construction of five immense piers varying in width from 60 to 300 feet and from a quarter to half a mile in length, but only one of the piers and part of the second were actually completed before the war. Japan will be compelled to complete what the Russians initiated to keep pace with the growth and progress of the country.

But any elaborate scheme to provide ample facilities for the handling of the immense trade of Manchuria, ten years hence, requires an enormous outlay of capital. The improvement of Dalny harbor will entail the expenditure of many millions, and the natural question arises, where will Japan obtain the money, and on what security? The matter is one which admits of no delay; it must be faced and settled as soon as possible, or the railway will be the loser.

Harbor works or port bonds usually run for a long term of years with the receipts and wharf charges as security. When Japan turns to foreign bankers for a loan of several million sterling to be employed in the improvement of Port Arthur or Dalny, the first question will be "how about the lease?" European financiers, while entirely willing to advance funds for harbor improvements in the Leased Territory as long as Japan controls the property, would refuse to consider the proposition if China is to resume her authority in thirteen years. Terms, which might be granted to Japan, would not be extended to China.

It is safe to conclude that if Japan were to seek a loan to-day in the financial markets of the world for the improve-

ment of Dalny, the embarrassing question relating to the life of the lease would be immediately raised. If Japan could give an assurance that the lease would be extended, backed up by the consent of the Chinese Government, she would have no difficulty in raising the necessary funds. And as the financial success of the South Manchuria Railway hinges on the terminal improvements, it is plain that Japan must receive some assurance from China that the lease will be extended, in order that she may go ahead with necessary financial negotiations to secure the funds.

It may also be accepted that China will never willingly consent to an extension of the lease, and will employ every subterfuge of diplomacy to delay giving an answer to Japan on such a vital question. Japan is in the position that she must know now, or at least in a year or so, whether China will consent to a renewal of the lease. This is vital to her interests. She must have China's official assurance, to be in a position to raise the funds necessary for the improvements at Dalny and Port Arthur.

A clash is inevitable. China will refuse and Japan must insist. Japan may agree to confine the lease extension to the ports and permit China to re-establish her authority over the rest of the peninsula. At all events a crisis will arise. Japan must be able to produce China's consent to the extension to secure funds for urgent improvements. In the event of China's emphatic refusal to consider the question, Japan will be blocked and baulked in her purpose. Will she accept such an answer as final, or will she resort to coercion?

The issue is not one to be decided twelve years hence: the solution must come now. It is the question of the day between the two nations.

In view of this situation, which might readily lead to serious complications between the two empires, and the effect it might have on other interests in the East, the proposal of the American Secretary of State to neutralize the Manchurian railways is not so much of a diplomatic blunder after all, nor does it have that air of grandiose simplicity that some people profess to see in it.

G. B. R.

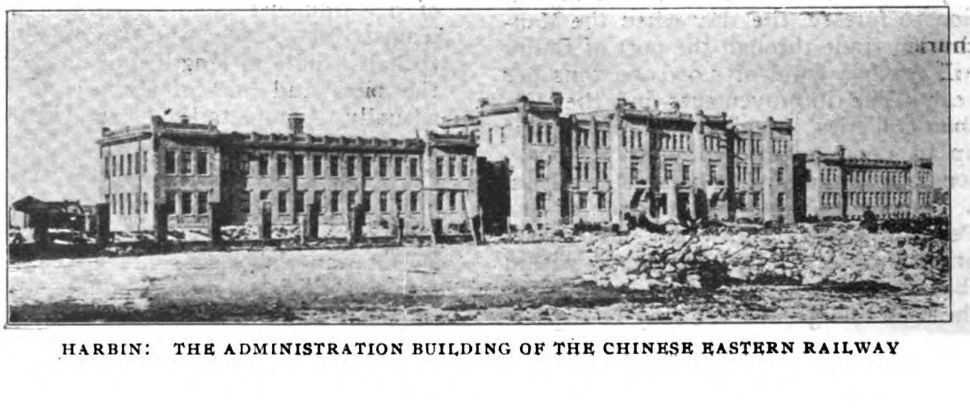
## THE CHINESE EASTERN RAILWAY

The following article from the *China Tribune*, a Japanese weekly published at Tientsin, sheds some further light on the leasing of Kwantung and the history of the financial affairs of the Chinese Eastern Railway:

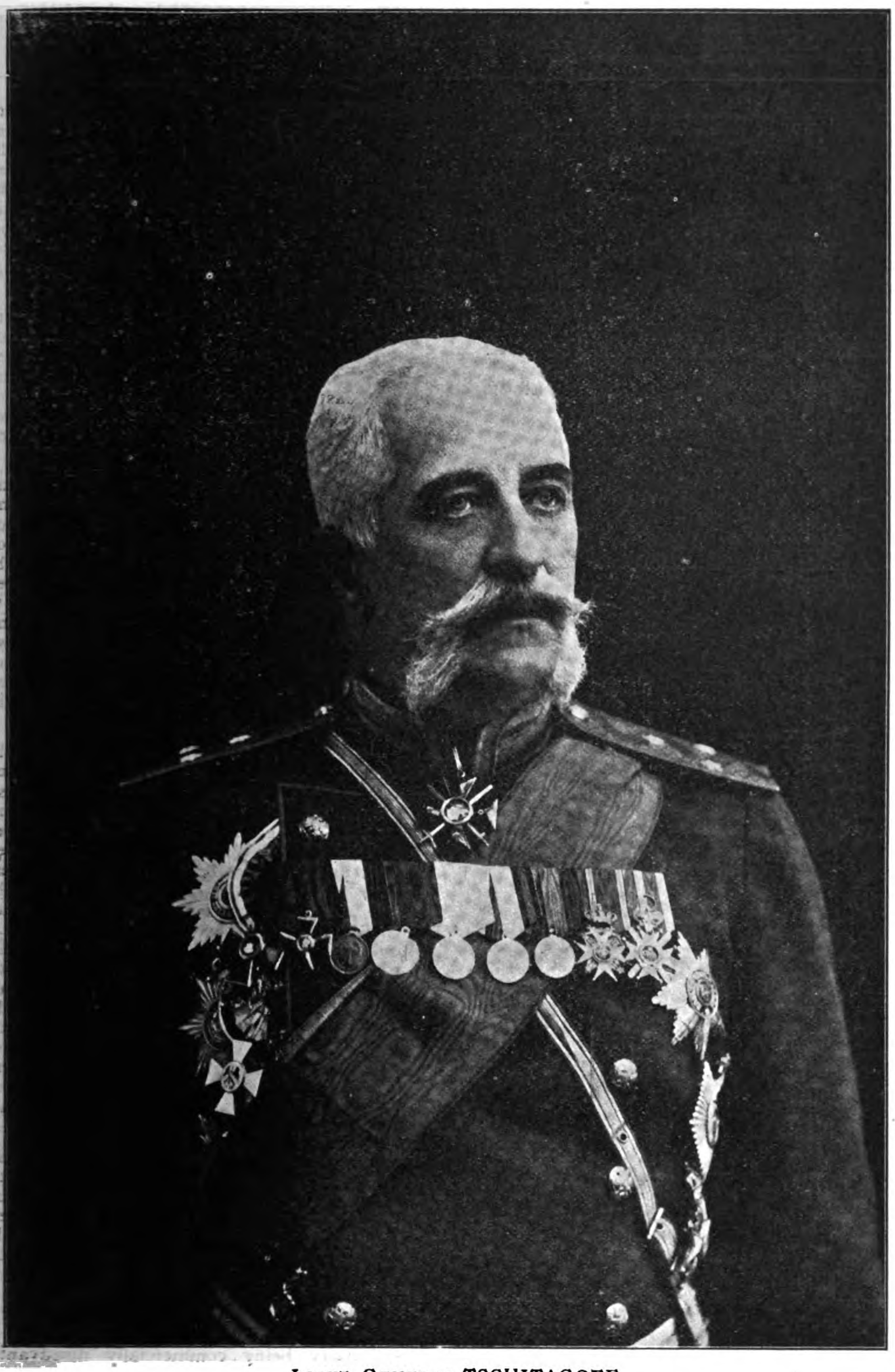
"In 1896, Earl Li proceeded to Moscow for the purpose of assisting in the coronation ceremony of the Czar. Count Witte, who was waiting for the opportunity to obtain a remuneration from China for the services rendered by Russia in forcing Japan to return to China Liaotung Peninsula, skilfully managed to conclude a secret agreement with Li. Accordingly on August 27th, the same year, the contract concerning the establishment of the Chinese Eastern Railway Company, that is the Agreement to construct the said railway, was concluded between the Chinese Representative Hsu Ching Chen and the Representative of the Russo-Chinese Bank, to connect Chita on the Trans-Baikal Line with the Usuri Railway.

MAJOR GENERAL HOVARTH

CHIEF OF STAFF AND MANAGING DIRECTOR OF THE CHINESE EASTERN RAILWAY
THE DOMINANT FIGURE IN HARBIN



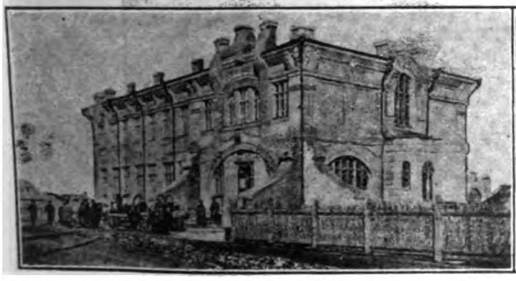
HARBIN: THE ADMINISTRATION BUILDING OF THE CHINESE EASTERN RAILWAY



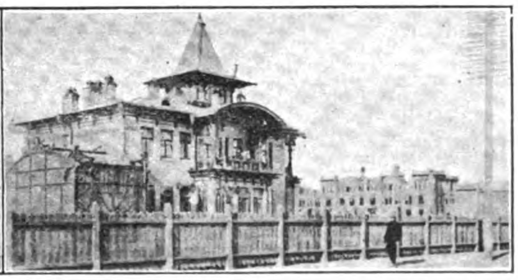
LIEUT. GENERAL TSCHITAGOFF
IN COMMAND OF THE RUSSIAN RAILWAY GUARDS IN MANCHURIA

HARBIN: HEADQUARTERS OF GENERAL STAFF FOR TRANS-AMUR DISTRICT

C. E. RY. STATION AT IMJANPO



HARBIN: CONSULATE GENERAL OF RUSSIA



HARBIN: OFFICIAL RESIDENCE

"In March, 1898, a part of the Russian Pacific Squadron, under the command of Admiral Dovbasoff, entered Port Arthur and hoisted the Russian flag upon the hill at the harbour entrance. On the 15th, Russia forced China to sign the Treaty of Leasing the Kuantung Territory, and even secured, on June 24th, the concession to build a railway line across South Manchuria. In 1899, the Regulations of the Chinese Eastern Railway Co. were sanctioned by the Russian Government, and through the above mentioned agreement of the leased territory, guaranteed by the Russian Minister of Finance, a railway extending for 1,600 miles from Manchuria in the north to Tairen and Port Arthur in the south and Pogranichinaya in the east was built by Russians through the Eastern Provinces of China.

"In 1904, no sooner had the Eastern Railway been completed, the unfortunate war broke out between Russia and Japan, and as the result of the Portsmouth Treaty, the company lost the line southward from Kuanchengtze. In the autumn of 1906, the Usuri line, owned by the Russian Government, together with the railway running to the Sucheng Colliery, was let to the Chinese Eastern Railway Co. for a term of 25 years.

"Although the Chinese Eastern Railway Co. is legally a private corporation, in reality the railway is managed by the Russian Government. As it is, the capital is furnished from the National Treasury, and the line controlled by the Minister of Finance, receiving a large sum of money as subsidy from the Government every year. Unlike other government lines, however, the Chinese Eastern Railway does not receive any command from or intervention of the Minister of Communications, nor it is under the superintendence of the Board of Audit. Its management is left in the hands of the Head Office of the Railway Company at St. Petersburg, and its finance is controlled by the Minister of Finance through a special organ Audit Bureau of the Chinese Eastern Railway. In other words, the line is nothing but 'an enterprise undertaken by the Russian Minister of Finance, maintained in Chinese territory with the money disbursed from the National Treasury of Russia.'

"How much money did Russia spend for the construction and management of the Chinese Eastern Railway? We saw elsewhere stated that the sum paid out by the Russian Government amounts to four hundred million roubles, but accurate investigation reveals the fact that the sum expended for the railway really aggregatesthe fabulous amount of six hundred and sixty two million roubles in round figures, consisting of the following items:

| | | |
|---|---|---|
| 1. | Unguaranteed Capital...Rbls. | 5,000,000 |
| 2. | Bonds with the Guaranteed Interest of 4% (subscribed in 1897)................ | 15,000,000 |
| 3. | Bonds with 4% interest (subscribed in 1898-1904)...... | 351,000,000 |
| 4. | Interest at the time of construction, added to the capital...................... | 23,275,604 |
| 5. | Interest on the above......... | 5,369,210 |
| 6. | Amount paid out during the Campaign, until 1909........ | 98,451,000 |
| 7. | Damages incurred at the time of the Boxer Trouble........ | 65,970,000 |
| 8. | Subsidies from 1906 till 1910.. | 97,351,000 |
| | Total................Rbls. | 662,398,159 |

"Of the above, the fifteen million roubles mentioned in the Item Second were borrowed from the Russo-Chinese Bank. For the repayment of the same and the interest, 625,388 roubles are put down in the annual estimate. For the redemption of the bonds mentioned in the Item Third and the payment of the interest are stipulated by the Edict dated December 17th, 1901, but the amount to be thus paid out is not entered in the estimate, it being debited as a loan of the railway company against the National Treasury. If the company is unable to pay the capital and interest for the same, the National Treasury will pay 6% interest on it. The Items 4th and 5th are same as the 3rd, while the 6th, 7th, and 8th, bear no interest.

HARBIN: RESIDENCE OF LIEUT. GENERAL TSCHITAGOFF

HARBIN: KIRIN PROVINCIAL BUREAU, YAMEN OF TAOTAI SZE

H. E. SHIH SAO CHI

CUSTOMS TAOTAI AND CHIEF CHINESE AUTHORITY AT HARBIN.—GRADUATE OF CORNELL, 1901

"In five years, from 1906 to 1910, the amount the Russian Government disbursed (the amount for 1910 being the estimate) as subsidy for the Chinese Eastern Railway totalled ninety seven million roubles as previously stated. The following shows the annual disbursement in round figures: 1906, Rbls. 17,407,000; 1907, Rbls. 25,170,000; 1908, Rbls. 22,649,000; 1909, Rbls. 17,578,000; 1910, Rbls. 14,547,000, average per year being 19,472,000 roubles.

"It will be noticed that since 1907, the amount was gradually reduced, but still 14 million roubles are reckoned on during the current year, making the average annual expenditure in the last five years over 19 million. This expresses without saying much what a heavy burden the Russian Government is bearing on account of the Chinese Eastern Railway.

"When Russia built the Chinese Eastern Railway, which was commenced in 1898 and completed in 1903 spending four hundred million roubles, she was instigated by a certain ambition for political as well as economical matters in the Far East. The sum of about one hundred million roubles that she spent from 1904 to 1905 was for the transportation of troops and provisions in her supreme effort to crush down Japan during the disastrous campaign. But what object has the Government in having paid out 97 million roubles in subsidy in the last five years? What is she aiming at?

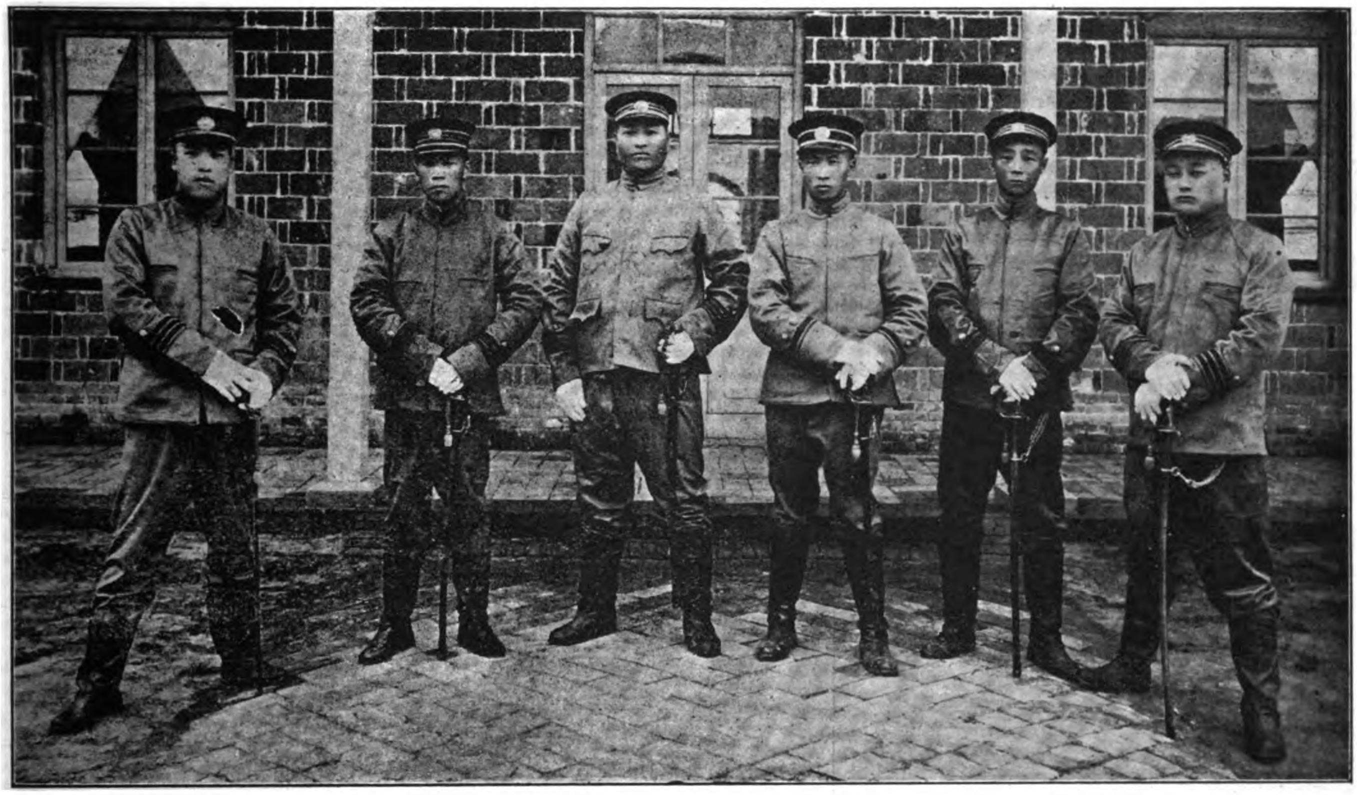
"The explanation is best furnished by the speech of Mr. Kokovtzoff at the Moscow Chamber of Commerce on his way to the Far East, last autumn. He stated, 'There was a time when the Chinese Eastern Railway was managed for political as well as commercial purposes, but at present there is only one object, commerce, for which we should work. To be more minute, (1) the Government intends to make the railway to serve as an organ of shipping Russian goods into North Manchuria, (2) to facilitate the transportation of Russian goods to Russian territories in the Far East and make the freight rate as cheap as possible, (3) to do its utmost for the importation of materials produced in China, which can be worked into marketable articles by Russian labour, and (4) to invite Chinese goods to be exported abroad to Vladivostock, so long as it does not harm Russia's interest.'

"No other object of running the Chinese Eastern Railway can exist beyond what the Minister specified; it is impossible to expect of this railroad anything which is outside of the commercial purpose. But when the fact that the railway company is losing 19 million roubles every year is observed, the actual condition of running it appears to be not in consonance with its object. Is this through unskilful management, or is it through the position of the railway being commercially disadvantageous?

"Let us first see how the railway company is managed. In doing so, it is necessary for us to examine the estimate of last year, before we proceed any farther.

"The main office of the Chinese Eastern Railway is at St. Petersburg, while the branch office is established at Harbin. The former is directly controlled by the Minister of Finance, and has about 300 assistants. Important questions are decided by the Directors, who

A TYPICAL STATION ON THE CHINESE EASTERN RAILWAY

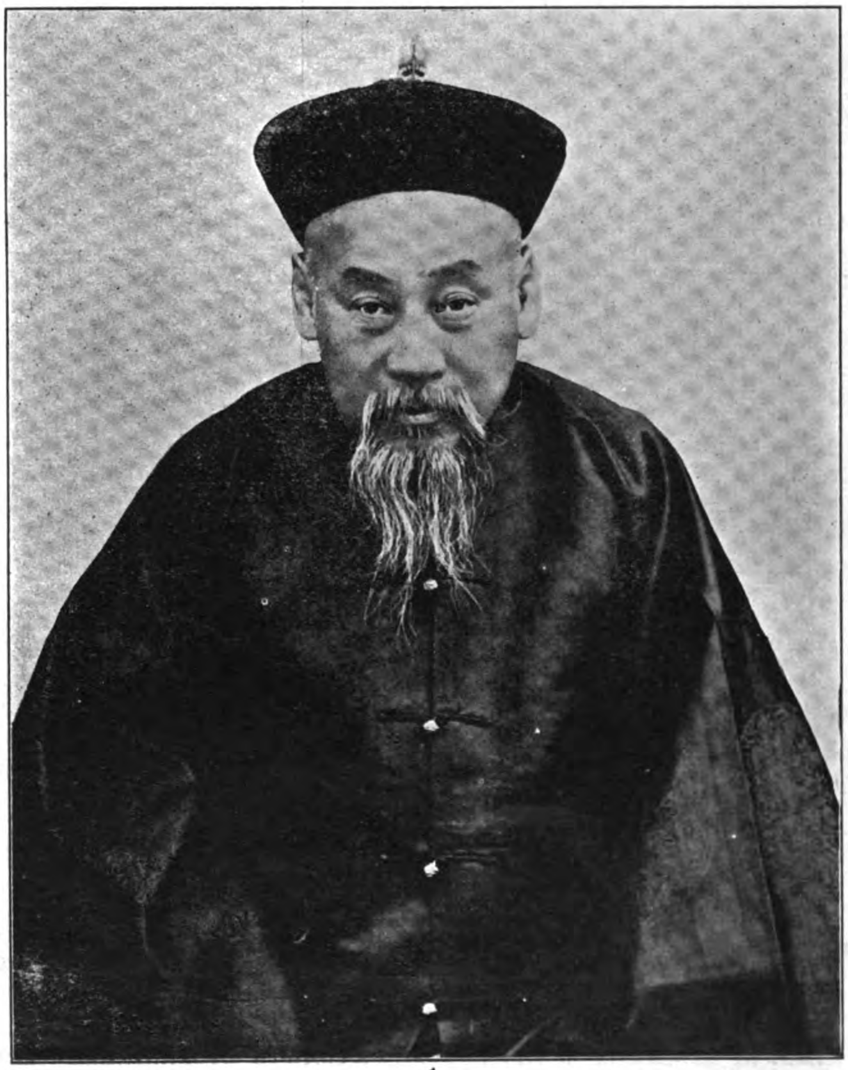


OFFICERS OF THE MODERN DRILLED MANCHURIAN ARMY

number over 10. The Branch Office engages in transacting the actual business of railway administration under the instructions of the Head Office. Gen. Holwatt and about 2,000 officials compose the staff.

"The organization of both offices is similar to each other, but their authorities are widely different, the Branch Office having almost no power to carry out things without the instructions of the Main Office. But the latter, being established in a far-off place from the district where the railway exists, is not familiar with the actual conditions obtaining, and, therefore, the decision of the Directors is often found to be contrary to the actual interest of the railway. On the other hand, the Branch Office, being hampered by the Head Office, is unable to display enough activity. Thus, views are frequently expressed of late to remove the Main Office to Harbin as to be able to do away with the existing evils."

| | Roubles. |
|---|---|
| 1. Expenses at the Main Office, St. Petersburg | 1,811,281 |
| 2. Expenses at the Branch Office, Harbin | 1,837,337 |
| 3. Expenses for running goods and passenger cars | 1,110,000 |
| 4. Expenses for Schools attached to the Railway | 26,555 |
| 5. Expenses for Garrison Troops | 9,828,000 |
| 6. Expenses for Civil Administration | 1,522,260 |
| 7. Expenses for Courts | 98,933 |
| 8. Expenses for Land Office | 200,601 |
| 9. Expenses for Negotiation Bureau | 231,668 |
| 10. Expenses for the Bureau of Line Preservation | 3,621,037 |
| 11. Expenses for the Traffic Bureau | 2,889,087 |
| 12. Expenses for the Bureau of Rolling Stocks | 6,679,227 |
| 13. Miscellaneous Expenses | 907,325 |
| Total | 30,763,011 |



H. E. CHENG-SHUN, DEPUTY MILITARY LIEUT.-GOVERNOR OF KIRIN

H. E. HSU SHIH-CHANG

FORMER VICEROY OF MANCHURIA IN THE UNIFORM OF COMMANDER-IN-CHIEF OF THE MANCHURIAN ARMY

H. E. CHAO EHR-HSUN

FORMER TARTAR GENERAL OF THE THREE EASTERN PROVINCES (MANCHURIA), NOW VICEROY OF SZECHUAN

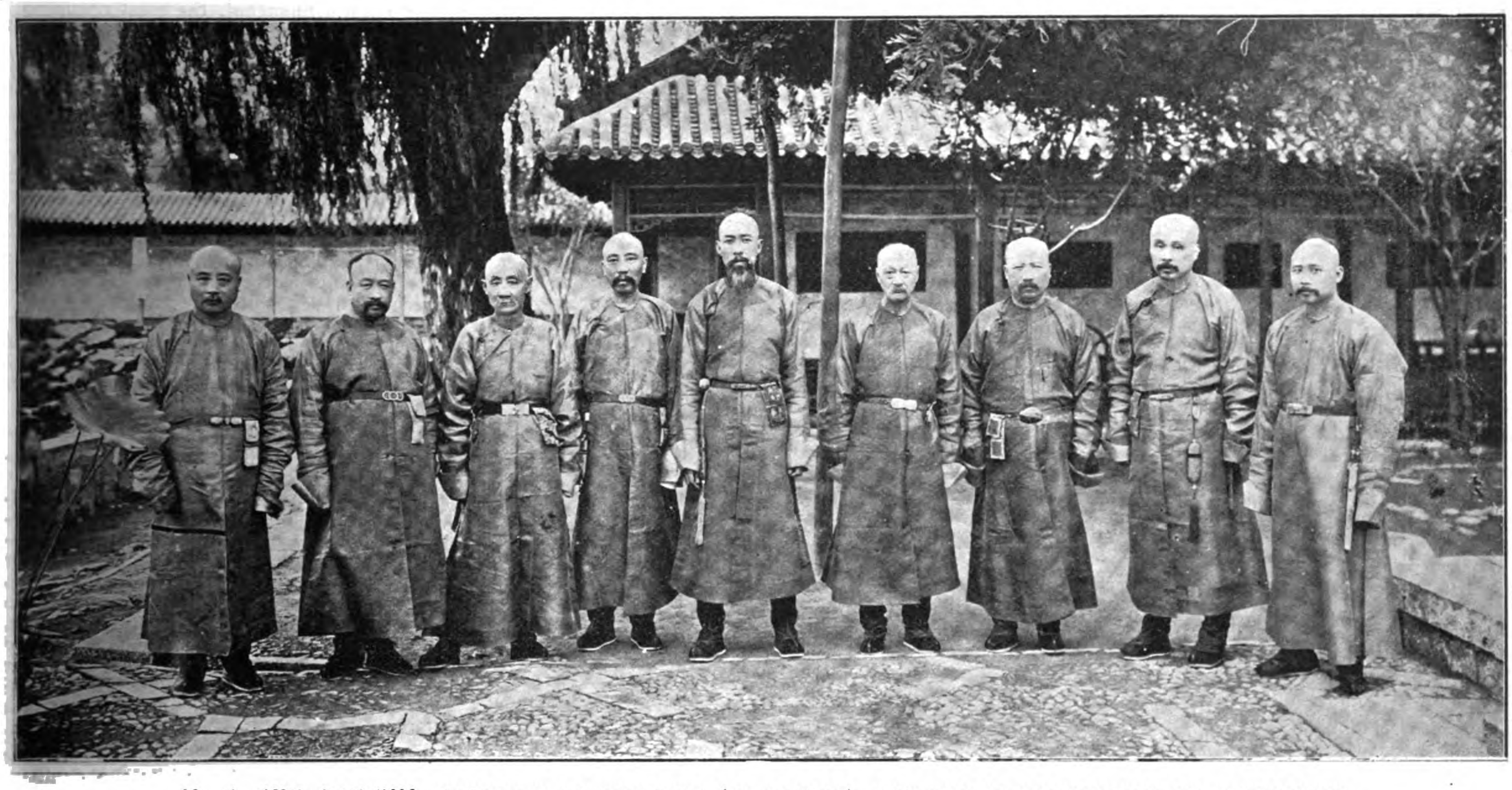
# RAILWAY STRATEGY IN CHINA.
## THE KAIFENGFU-HAICHOW LINE

*Shanghai*, May 1st, 1910.—The Railway and Mining Concession exacted by Germany in her Kiaochow Convention with China stipulates in Article 1:—

"The Chinese Government sanctions the construction by Germany of two lines of railway in Shantung. The first will run from Kiaochow and Tsinanfu to the boundary of Shantung province via Wei-Hsien, Tsinchow, Pashan, Tsechuen and Suiping. The second line will connect Kiaochow with Chinchow, whence an extension will be constructed to Tsinan through Laiwu-hsien. The construction of this extension shall not be begun until the first part of the line, the main line, is completed, in order to give the Chinese an opportunity of connecting this line in the most advantageous manner with their own railway system. What places the line from Tsinan-fu to the provincial boundary shall take in enroute is to be determined hereafter."

In Article 4 it is also stipulated that "if at any time the Chinese should form schemes for the development of Shantung, for the execution of which it is necessary to obtain foreign capital, the Chinese Government, or whatever Chinese may be interested in such schemes, shall, in the first instance, apply to German capitalists. Application shall also be made to German manufacturers for the necessary machinery and materials before the manufacturers of any other Power are approached."

German railway rights in China, as defined by the Kiaochow Convention, thus include the road between Tsingtau and the provincial capital at Tsinanfu, and another line from Kiaochow to the boundary via Ychowfu, and thence northwards via Laiwu-hsien to Tsinanfu making a complete triangle in the preferred sphere. The line from Tsingtau to Tsinanfu has been built and is operating successfully, and the inner leg of the triangle is under construction, forming part of the German section of the Tientsin-Pukow railway. The outer line from Kiaochow to Yhsien has been surveyed, and estimates of construction prepared, but no work has yet been attempted, and the right to construct it is held for some future date, when conditions are more favorable. Although the Kiaochow Convention granted to Germany the right to the line from Tsinanfu to Yhsien or Chiningfu to be constructed with her own capital and operated as a German line, this concession was subsequently waived in the negotiations leading up to the signing of the Tientsin-Pukow Railway Loan Agreement. In order to secure the Chinese Government's guarantee to the Loan, the German bankers surrendered to China their rights to own and operate the line.



H. E. SUN PAO CHI, GOVERNOR OF SHANTUNG (IN CENTER), AND THE LEADING PROVINCIAL AUTHORITIES

German authorities unite in predicting a great future for their port of Tsingtau, as with the construction of new lines extending beyond Tsinanfu into the interior, trade will be attracted to the port, which in time, it is hoped, will prove a formidable rival to Tientsin and Hankow. To bring this about, the Germans have advocated the construction of two important railways, and have used their best endeavors with the Chinese government to grant them the concession. A link connecting the terminus of the Shantung Railway at Tsinanfu with some point on the Peking-Hankow line would prove of immense commercial value to the development of Tsingtau, and a line from Tehchow, in northwestern Shantung, to Chentingfu on the Pekin-Hankow line, has been recommended by Germany. This would place Tsingtau in a position to rival Tientsin as the port for the immense districts of Shansi and southern Chihli, and owing to the fact that Tientsin is ice-bound for 4 months of the year, it would enable the German port to make a direct bid for the trade of the country even up to Peking and beyond.

The German program also includes the construction of another similar line parting from the Tientsin-Pukow railway, somewhere in southwestern Shantung, probably at Yengchow, passing through Tsining on the Grand Canal, and Tsaochowfu to Kaifengfu, the capital city of Honan province. Here it would connect with the existing Peinlo or Kaifengfu-Honanfu Railway, which is to be extended westwards via Tungkwan to Sianfu, from whence at some future date will start the important Trans-Asian line via Lanchowfu to Ili and Kashgar. This would divert to Tsingtau the trade of Central China and especially the coal export traffic of Shansi. Either of these projects would materially increase the prosperity of the German Shantung Railway and develop the port of Tsingtau. So Germany is looking far into the future, and in building the Shantung Railway, the road bed was made wide enough for doubletracks, although only a single line is now operated.

To the many overtures on the part of Germany to build these two important links, China has responded in the negative, but has promised that if foreign capital is called on China will apply to Germany for the loan. So while the concession is withheld, these projects may be considered as coming within the sphere of future German railway loans in China. With the German position in relation to railway development in this section clearly outlined, we may now turn to another phase of the situation which also has an equally important bearing on the railway problem of Central China.

The original mining concession of the Pekin Syndicate, in Clause 17, stipulates:—

"Whenever it may be necessary for any mine to make roads, build bridges, open or deepen rivers or canals, or construct branch railways to connect with main lines or with water navigation to facilitate transport of Shansi coal, iron and all other mineral products from the province, the Syndicate on reporting to the Government of Shansi is authorized to proceed with the works, using its own capital without asking for Government funds.

This clause was held on the part of the Peking Syndicate to cede to them the right to build a railway from the mines in Shansi, to tidewater. Their original scheme was to strike southwards towards Siangyang situated at the head of navigation on the Han River, thus finding a short outlet to the Yangtsze, but this was finally abandoned in favor of a route from the mines across 350 miles of country to the Yangtsze at Pukow. Their somewhat indefinite railway rights, which have been recognized by the Chinese Government, were afterwards merged with the concessions of the British and Chinese Corpora-

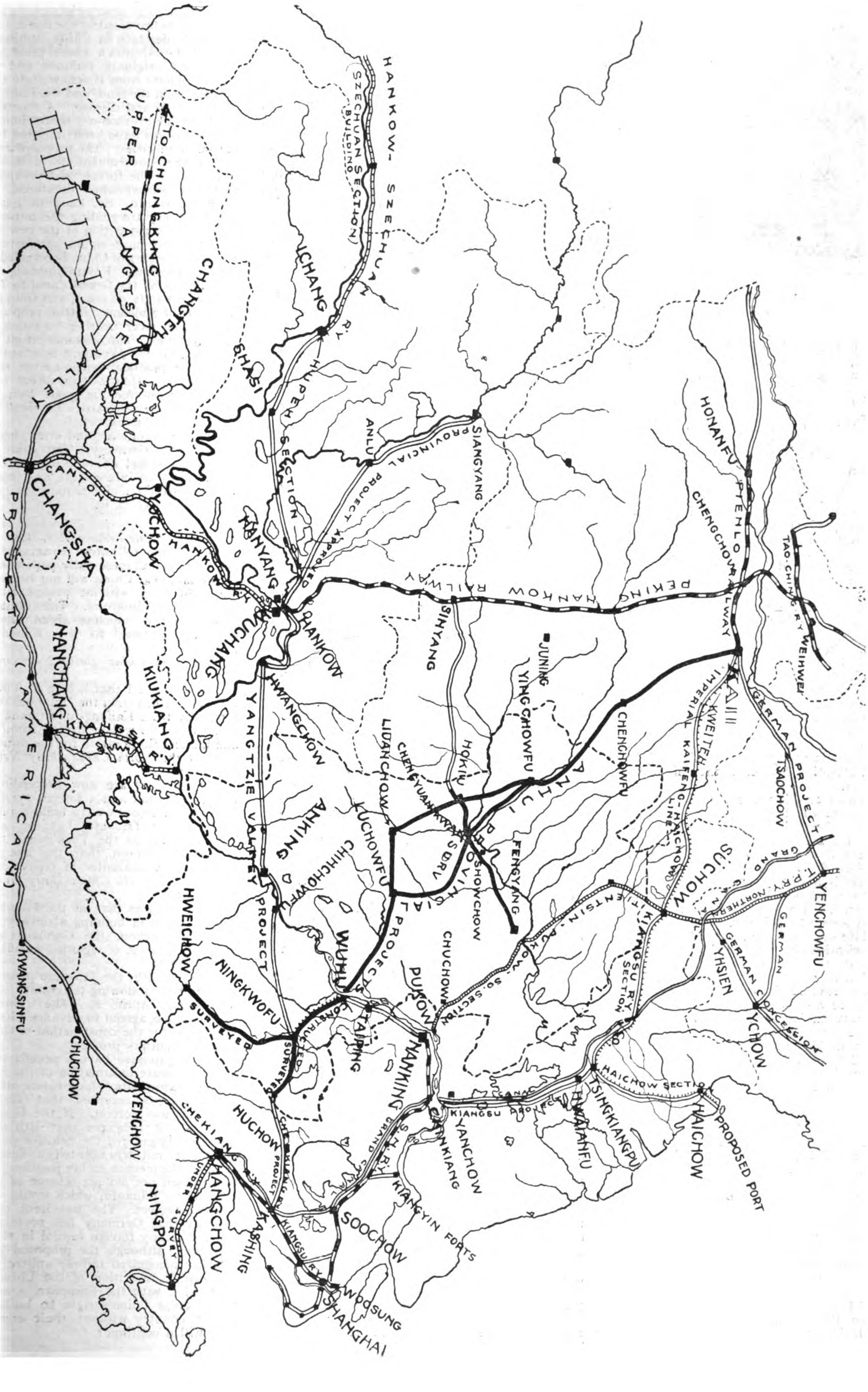
HIS EXCELLENCY, SUN PAO-CHI, GOVERNOR OF SHANTUNG PROVINCE; MINISTER TO FRANCE, 1902; CHIEF SECRETARY OF THE GOVERNMENT COUNCIL, 1906; GOVERNOR OF PEKING, AUTUMN, 1906; MINISTER TO GERMANY, 1907; PROMOTED TO PRESENT POST 1909.

tion, which comprised the southern half of the Tientsin-Pukow Railway and a future line from Pukow to Singyang on the Peking-Hankow line. While the plan of the Peking Syndicate to build a road from the mines to Pukow has been abandoned owing to the combination with the British and Chinese Corporation, the route has been modified to join the Tientsin-Pukow railway at some point further north. No definite information on this subject is available, but in order to avoid a conflict with the established rights of the British and Chinese Corporation it is probable the Peking Syndicate claim will embrace a route from the mines terminating at some point on the Tientsin-Pukow Line, further north than the Pukow-Singyang project. Such a line would, therefore, pass through Kaifengfu and join the Tientsin-Pukow Line at Suchowfu or Suchowan. As the Pekin Syndicate still holds these railway rights as a valuable asset, it can be readily recognized that their sclaim must be clearly faced by the Chinese Government at some future date. The extension of the existing Pekin-Syndicate or Tao-Ching Railway, through Kaifengfu to any point on the British section of the Tientsin-Pukow line, would tend to divert the traffic of Honan and Shansi to the deep water outlet at Pukow. Such a line must materially weaken the value of the Pukow-Singyang concession held by the same syndicate. The success of the German program is undoubtedly the greatest menace to the profitable operation of these British lines, as the Kaifeng-Yengchow extension would place Tsingtau in a most favorable position to compete with them for traffic in the same districts. So it is clear that the questions involved in any railway extensions, connecting the Peking-Hankow and Tientsin-Pukow trunk lines, are vastly important to British and German interests. The future of Tsingtau as a great port hinges on whether Germany can secure a western extension to her railways in Shantung, and the rights of the Pekin Syndicate and the British and Chinese Corporation are affected by any move tending to favor the German program

China undoubtedly appreciates the situation and is determined to avoid future complications. First and foremost her own interests demand attention, and the question of an open port on the North China coast under her exclusive administration is a paramount issue with her government. For it is a significant fact that China has been deprived of all the valuable ports situated on the northern stretch of her coast. Shanghai, the great commercial center of the Empire, is ruled by an International Council, and the central government has no control over its affairs. Tsingtau is held by Germany, Weihaiwei by Great Britain, Dairen and Port Arthur by Japan; this leaves to China the outlets at Newchwang, Tientsin and Chefoo. Newchwang as a port is worthless. Eighty years ago the spot on which Yinkow now stands was at the bottom of the sea, and it is now twenty miles inland from the mouth of the Liao River. The encroachment of the land on the Liao-Gulf is going on so rapidly that any port at the mouth of a river can never be depended on as a permanent outlet for trade. In addition, the Liao River at Newchwang is frozen over for at least four months of the year, and all commerce is checked until the thaw, and then only shallow draft coasting vessels can reach the town.

Chinwangtao is an artificial ice free port owned and operated by the Chinese Engineering & Mining Company. Tientsin which ought to be the great port for North China is handicapped by the same disadvantages as Newchwang, and any scheme of improvement embracing a large expenditure is only a waste of money. The silt carried down by the Haiho is so great that constant dredging is necessary to keep a channel open for light draft steamers. Large vessels have to lie off shore as far as nine to ten miles, so Tientsin as a port can never figure in any important scheme for the development of the Empire, or the advancement of a national policy.

There remains Chefoo which might be made a great Chinese port, but while the depth of water is ample, the harbor is open to the heavy northern gales, and a breakwater is imperative to make it safe for vessels during the winter season. But at the best, even after a large expenditure of money on improvement schemes, the harbor of Chefoo could only accommodate a very limited number of vessels. Chefoo's prominence as a port has rapidly declined since the opening of Tsingtau and the construction of the Shantung Railway. The trade of the province, which once flowed through Chefoo, has been diverted to Tsingtau, and the only hope of the port is the building of a railway which will terminate at some point on the existing Shantung Railway. It is quite clear that such a road would menace the prosperity of Tsingtau, and diminish the through traffic of the German line, and as it conflicts with German interests, must meet with their disapproval. Chinese promoters have several times endeavored to raise the funds to construct this line from Chefoo to Wei-hsien, but up to date have been unsuccessful. Under the terms of the Kiaochow Convention, if the Chinese desire foreign capital to develop the province, they must turn to Germany, and in view of the menace to her own interests, it is quite natural that she would withhold financial assistance to such a scheme. While the Chinese are free to apply elsewhere for aid in the event of German refusal, such action on their part would undoubtedly result in complications. The Chinese have gone so far as to openly state that German officials are decidedly opposed to the construction of this line and have threatened to use their power at Peking to break any official who encourages the scheme. This statement, however, is apparently without foundation, and must be accepted for what it is worth. The real difficulty in the execution of the scheme is the failure on the part of the Chinese to raise the funds themselves. At all events, Chefoo could never enter into any plan of the Chinese Government of building up a port under its own




RAILWAY MAP ILLUSTRATING RAILWAY STRATEGY IN CHINA.

GOVERNOR SEM PAO-CHI AND CHIEF PROVINCIAL OFFICIALS OF SHANTUNG AT A RECEPTION GIVEN BY THE GERMAN CONSUL AT TSINANFU

control, for as long as the Kiaochow Convention holds good, the proposed railway line will only have a local importance, and would be useless to China in the advancement of any broad national policy for the development of the Empire.

Weihaiwei, leased to Great Britain, has no future as a trade port. So it is quite clear that China is at present deprived of the only really good harbor on the Northern coast through which she could divert the great trade of the Central provinces. Japan holds the best habors for the outlet of Manchurian trade, and Germany occupies the port of Tsingtau, commanding the desirable trade routes from the sea to the great central provinces. If foreign railway programs are permitted full scope to develop, the logical sequence is that China will be forever barred from controlling a suitable deep water base for the furtherance of her own policy.

The situation outlined above is naturally one of vital importance to China, and it is interesting to note how she has solved the problem. Her move in the game, only recently announced to the world, is one of the most masterful pieces of political railway strategy yet recorded. By one simple line she effectively blocks the German program, nullifies the value of the British claims and opens for herself a port which will be under her own control. The deep significance of her move has apparently been lost sight of, in the general attention devoted to the Chinchow-Aigun project.

Some months ago, it was reported that the Chinese Government had opened the port of Haichow, a hitherto insignificant port in the north-eastern coast of Kiangsu Province just south of the Shantung border. This report, however, lacks official confirmation. The reason for such a step is now made clear by the imperial sanction to a scheme for building a railway from Kaifengfu, through Suchowfu, Tsingkiangfu and thence to Haichow.

Under date of March 8th, 1910, the Board of Communications memorialized the Throne on a railway project between Kaifengfu in Honan and Haichow, a seaport in the northern corner of the Province of Kiangsu.

According to the Memorial, the importance of this railway having been recognized by the Chinese Government, surveyors were despatched last spring to decide on the route to be adopted. The result of the survey was in favor of an early construction of the line, in view of the various advantages to be derived from the scheme.

Between Kaifeng and Suchow two routes were considered. One reaches Hsuchow via Chenliu, Kihsien, and Tangshan, while the other runs via Lanfeng, Kaocheng and Liukow, and along the old course of the Yellow River to Suchow. The latter, or northern line, running through a flat country, the cost of its construction will be less than the other route. But the southern line has the advantage of connecting the flourishing towns in the Province, and from the political and military point of view it is of more importance. It has, therefore, been decided to adopt this line. From Suchow there are three candidate lines to reach Haichow. The first is a straight line running eastwards via Peichow. The second is a line running in curve southeast to Hsuchien, thence turning to the north-east to make Haichow. The third line runs via Hsuchien to Chinkiang, from which place it turns northwards to reach Haichow. Of these three lines, the first is the shortest and least expensive one, but the construction of the Suchow-Chinkiang section having already been granted to the Kiangsu Railway Company, it is recommended that the third route should be adopted.

The cost of construction estimated, and the distances of each section are given below.

| | |
|---|---|
| Kaifeng to Suchow, 560 li...... | Tls. 6,700,000 |
| Suchow to Chinkiang (this section to be built by the Kiangsu Railway Co.) | |
| Chingkiang to Haichow, 250 li.. | 3,000,000 |
| Extension to the beach and harbor improvement at Haichow...................... | 2,800,000 |

Besides the above, there will be other minor items to be counted, and the total expense will amount to about 14 million taels, which, when compared with the other railways in China, is considered cheap, while the profits to be derived from this line will come next to the Peking-Mukden and Peking-Hankow railways.

Although the necessity of commencing the work as soon as possible is keenly felt by the Chinese Government, it is no easy matter for them to raise the funds required, without resorting to a foreign loan, which China does not desire at present. The surplus profits of the Peking-Mukden and Peking-Hankow railways having already been appropriated to the construction of the Kalgan-Kaihuacheng, Kirin-Changchun, Cheng-Tai, Taa-Ching, Pien-Lo and Shanghai-Ningpo lines, and other sources of income being also inadequate to meet with the fresh outlay of 14 million taels, the Board recommends that the work should be spread over several years, commencing it from more important sections of the line with such funds as are available for each year. By this means it is hoped to avoid any undue pressure being likely brought upon the financial resources of the Empire.

A glance at the map will show that the new line just keeps outside the German sphere of preferred rights in Shantung, so that opposition from that source cannot be fairly advanced, and its construction will effectively checkmate the German project to build a line from Yenchow to Kaifengfu. The map will also show that the new line, by connecting Kaifengfu with the Tientsin-Pukow at Suchowfu, obviates the necessity of the Peking Syndicate to extend its road in that direction, and in a measure it decreases the importance of the Pukow-Singyang project.

The new road will virtually be an extension of the existing Peinlo Railway, and will in time form the Eastern Division of the great Asian trunk line to Ili and Kashgar. The great volume of traffic from these regions, and from districts served by intersecting lines, will then be diverted to the new Chinese port of Haichow. With the connecting railways owned and operated by the Chinese Government, through rates can be made, which will draw the traffic to the new line and develop the new port The German dream of a greater Tsingtau is somewhat dispelled when the future of Haichow is thoughtfully considered.

China naturally advances the legitimate argument that the line is of immense advantage from a military and commercial viewpoint. In fact, she does not have to offer explanations as to her reasons for building the line, as it does not conflict with the treaty rights of other powers. The districts traversed by the line are the poorest and most desolate in China, subjected to periodical floods, which cause great damage to crops and originate famines and pestilence. Recent reports from Haichow state that famine is again upon the land, and thousands are dying of starvation and disease. A repetition of the great famine of 1906-07 seems imminent, and relief measures have been initiated by the provincial authorities. The proposed railway will enable the Government to ameliorate these conditions in the future, and provide work for thousands of wretched creatures, who must otherwise starve. So, hand in hand, politics and humanity are guiding the imperial authorities in the construction of the new line.

One of the most significant features of this move on the part of China is revealed by a close study of the map. From Chinkiang northwards to Haichow by the Grand Canal to Tsingkianfu is approximately 90 miles, and from here to the new port of Haichow via the proposed railway or the Yen river another 80 miles, or a total of 170 miles. The distance from Chinkiang to Shanghai via Woosung is about 160 miles or for all practical purposes the same. This really places Haichow in direct competition with Shanghai for the great Yangtsze River junk traffic, which carries no small portion of the products for export.

China has moved and cries checkmate to Britain and Germany. The game has been played fairly and above board, and the world will await with interest the next move on the part of Britain and Germany to regain their lost ground.—G. B. R.

---

*Editorial Note.*—Since Mr. Rea wrote the foregoing, the following paragraphs have appeared in the Chinese daily papers which point to the fact that China will not be permitted to build the road without protest from British and German interests. The same principle underlying the Chinchow-Aigun railway applies with equal force to the Kaifeng-Haichow Project.

The *North China Daily News* of May 12, 1910, says:

"It is reported that a loan of Tls. 1,800,000 will be obtained from the United States to build a railway from Kaifeng-fu to Chang-Chow, and Tls. 10,000,000 will be loaned from the British and Chinese Corporation for the same purpose."

From the *North China Daily News* of May 13, 1910:

"Negotiations are now proceeding between the Yuch'uanpu and a foreign syndicate for a loan of Tls. 20,000,000 to build a railway from Kaifengfu to Tsinanfu, but the bargain was not concluded as the Yuch'uanpu refused the syndicate's request that the line should be pledged as a guarantee of repayment."

From the *North China Daily News* of May 14, 1910:

"A report says that, as the French intend to invest capital in building a railway from Hsuchou to Haichou, the Germans oppose the proposition, as it is regarded as affecting German interests."

On April 26th, the Japanese paper at Dairen published the following telegram:

"Peking, April 26.—The Sino-American Syndicate has agreed to advance a loan of Taels 18,000,000 for the construction of the Kaifeng-Haichow Railway project."

As the Japanese have a peculiar way of securing accurate information of the inner workings of Pekin politics, long before other foreigners, it may be accepted that their news of April 26 was correct. If the latter news is also true, it indicates that British interests immediately entered the field for participation, and the second item also tells us that Germany, alive to the menace to her position, immediately proposed her old pet scheme of a line from Kaifeng to Tsinanfu, which would obviate the Chinese project. The last item of the 14th tells us that Germany has protested against the use of any foreign capital in the region of Shantung, although the proposed line is outside her recognized railway sphere. And here we have a repetition of the Chinchow-Aigun embroglio, with the European powers refusing to recognize China's right to build a railway in her country without their consent. How long will it continue?

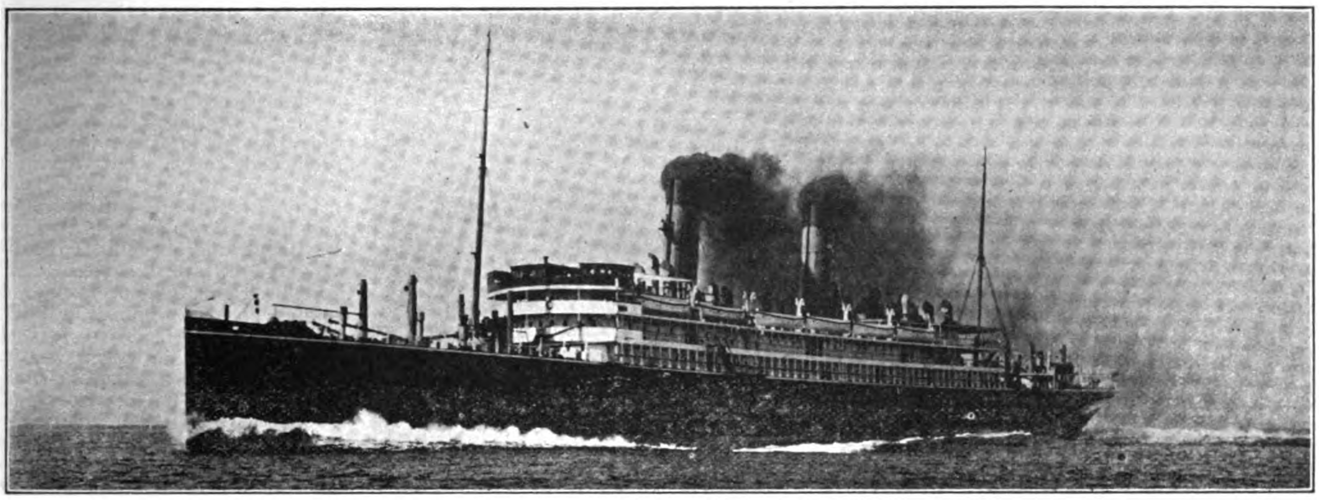
# New Steamers Built by the Mitsu Bishi Dockyard and Engineering Works, Nagasaki, Japan, for the Nippon Yusen Kaisha and Toyo Kisen Kaisha.

Great interest has been taken in maritime circles in the four new twin-screw steamers, the *Kamo Maru*, *Atsuta Maru*, *Hirano Maru*, and *Kitano Maru*, built for the Nippon Yusen Kaisha by the Mitsu Bishi Dockyard and Engineering Works of Nagasaki, Japan. These four vessels were designed for the European service of the company. The gross tonnage averages 8,500 tons.

The condensers, which are separate, have strong cast-iron casing, with rolled gun-metal tube-plate, and tinned, solid-drawn brass tubes. The top of the condenser is specially shaped so that the exhaust steam from the engine flows uniformly all over the tubes.

The various auxiliary appliances include Edwards' patent single-acting air-pump, Weir's patent feed-heater and automatic pumps, circulating pump, feed-water filter, auxiliary condenser of Morison's "Contraflo" type, also pumps for sanitary purposes, for washing decks and fire-extinguishing, and for supplying fresh water for passengers' use. There are also bilge and ballast pumps. The distilling plant consists of one large evaporator, by Messrs. Weir, capable of producing from sea-water 40 tons of fresh water per twenty-four hours, and one distilling condenser having an output of 7,000 gallons of pure fresh drinking water per day.

The boilers are arranged in one compartment. There are six single-ended boilers. Each boiler is 14 ft. 3 in. in diameter and 11 ft. 6 in. long, and has three furnaces. The flues, which are of Morison bulb suspension type, have an internal diameter of 3 ft. 5 in. The boilers are worked at a pressure of 200 lb. to the square inch, and are on the Howden forced-draught system.



S. S. "CHIYO-MARU"

**TRANS-PACIFIC TURBINE DRIVEN PASSENGER STEAMER "CHIYO-MARU" FOR T. K. K.—Built and engined by the Mitsu Bishi Dockyard and Engine Works, Nagasaki, November 1908.—Length (overall), 570 feet 0"; Breadth, moulded, 63 feet 0"; Depth (shelter deck), 46 feet 6"; Gross tonnage, 13,426 tons; Displacement, 18,725 tons; Engines, Parsons' Three Shaft Arrangement; Boilers, Single Ended Scotch Boilers (13); I. H. P., 19,591; Speed, 21 knots. (This photo was taken on her full speed trials the 13th October, 1908.)**

The *Kamo Maru*, *Hirano Maru* and the *Atsuta Maru* were launched in 1908 and the *Kitano Maru* in 1909. The average speed of these vessels runs from 16.41 to 17.19 knots. The dimensions and other particulars follow:

| | |
|---|---|
| Length between perpendiculars | 465 feet. |
| Breadth, moulded | 56 feet. |
| Depth | 34 feet. 6 in. |
| Gross tonnage | 8524 |
| Draught | 27 feet 0¾ in. |
| Dead weight | 9501 tons. |
| Speed | 16.41. |
| Number of first-class passengers | 32 |
| Number of 2nd-class passengers | 12 |
| Number of intermediate passengers | 138 |

Each vessel is fitted with a twin set of triple expansion engines, each set having a high-pressure cylinder 25 in. in diameter, an intermediate cylinder 41½ in. in diameter, and a low-pressure cylinder 69 in. in diameter, the stroke in all cases being 48 in., to work with a steam pressure of 200 lbs. per square inch.

The high-pressure cylinder is fitted with piston-valve, and the intermediate and low-pressure cylinders with slide-valves. The intermediate-pressure cylinder slide-valve is balanced, and is known as a square piston-valve. Dewrance's impermeators are fitted to the intermediate and low-pressure casing covers. The packing-rings for the high pressure and intermediate-pressure pistons are of the Ramsbottom type, provided with restricted movement. Packing for the low-pressure piston is of simple design.

All the working parts of the engine are made to standard gauge. They are of ingot forged steel, while the propeller shafts are of patent "Lockfast" iron. The propellers are right and left-handed, each with four blades, of Stone's manganese bronze, and fitted with a large elongated cone over the nut. After a series of trials the propellers proved highly efficient.

Box columns are adopted for supporting engine cylinders, one serves as a hot-well and air-vessel for the air-pump, while others serve as reservoirs for lubricating oil.

CHIYO-MARU LOUNGE

Each has one special high-speed single-cylinder double-acting engine of the open type, and is capable of working all boilers when the main engines are running at 15,500 indicated horse-power on service.

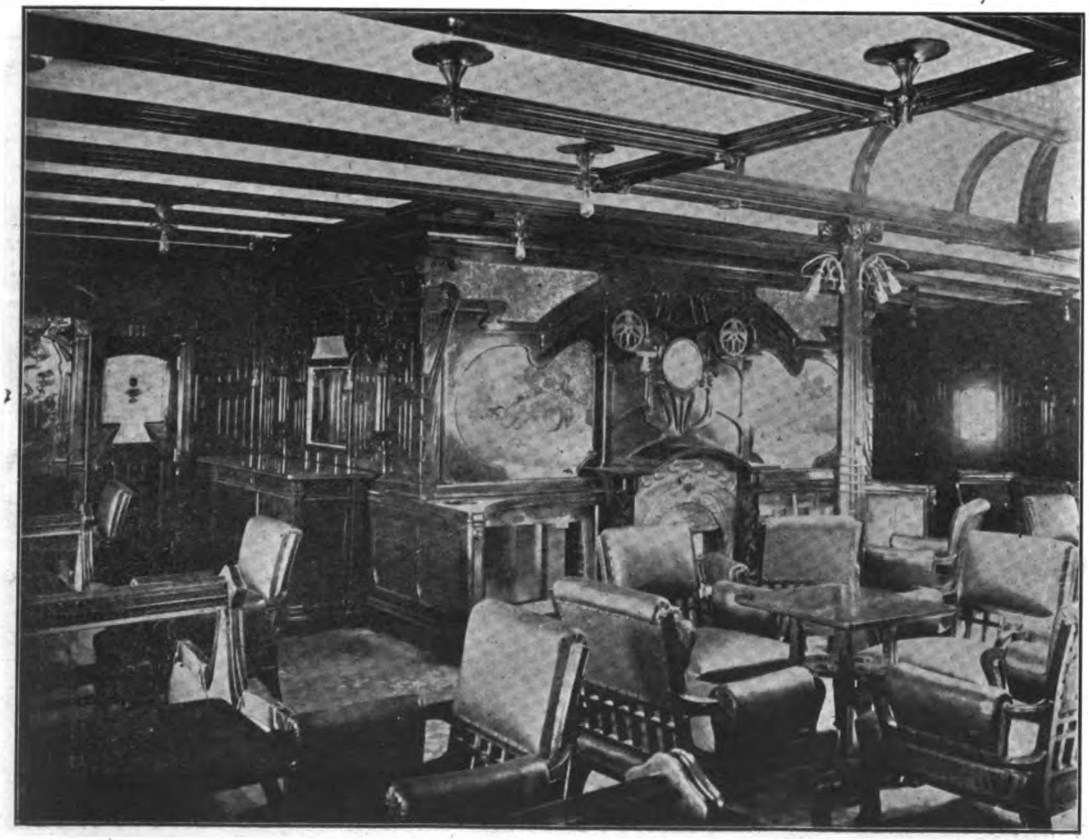
There is one large funnel, circular on plan, 12 ft. 9 in. in diameter and rising to a height of 110 ft above the keel of the vessel. The funnel is double, the space between the inner and outer funnels being utilised for ventilating the boiler-room and stokeholds. The provision for the disposal of the ashes has been made by fitting two powerful See's ash-ejectors, one in each stokehold, worked by a special donkey-pump.

An interesting description is given in *Engineering*. The vessels are constructed generally of steel, to the highest class of Lloyd's requirements, and they are subdivided into eight compartments by water-tight bulkheads, with a cellular double bottom from stem to stern.

DINING SALOON, CHIYO MARU

There are six decks; these are known as the lower, the main, the upper, the bridge, the promenade, and the boat-decks. The lower deck is only at the fore part of the vessel, the next two decks—main and upper—extend from stem to stern, and the bridge-deck extends 178 ft. in the central part, having a poop 80 ft. long, and a forecastle 54 ft. long. Above this level there is, in the central part of the ship, the promenade-deck, 138 ft. long, and aft there is an aft boat-deck 56 ft. long. The boat-deck proper covers the entire length of the promenade-deck, with navigation bridge at the forward end. At the forward end of the boat-deck there are located under the bridge the wheel-house, chart-room, and captain's room. Abaft these is the light and ventilating-shaft for the main dining-saloon, and around it is sufficient promenade space for the use of officers. Ten boats are stowed on this deck in order not to interfere with the space on the promenade deck. The remaining boats are stowed on the aft boat-deck. All boats are fitted with Mill's patent instantaneous engaging and disengaging gears. At the aft end of the boat-deck there is the engine-room skylight, also the celestory skylight for the first-class smoking-room. The promenade deck is entirely alloted to the principal public rooms and to promenade space. There is a steel house extending almost the entire length with a broad and spacious promenade around it, yet under the cover of the boat-deck. The drawing-room and social hall occupy the forward end of the house, having a companion-way leading down to the bridge-deck accommodation. The mid portion of the house is taken by the boiler up-take and engine-room hatch. At the aft end there is a first-class smoking-room, 24 feet by 28 feet.

The bridge-deck is also entirely used for the first-class passenger accommodation. The deck-house, which occupies practically the full length of the deck, has on each side two-berth state-rooms, exceptionally capacious and lofty. At the fore end of the house there is a large well to the main dining-saloon on the upper deck below. This light and ventilating well has been ingeniously treated, and serves to add to the decorative effect. It pierces the deck above, through the drawing-room and social hall, and also the boat-house deck, terminating with an outer skylight on the top of the navigation bridge; but internally, at the boathouse level, there is a charmingly designed stained glass dome of highly decorative character. Abaft the well there is a main stairway leading to the promenade deck above and to the dining-saloon below. Ample natural light is provided in the way of the staircase by means of a large and handsomely designed trunk skylight. At the aft end of the house there is a companion-way to the smoking-room. The remaining space in this deck-house has been devoted to bath-rooms and lavatories.



CHIYO MARU SMOKING-ROOM

The poop-deck is given over to the second-class passengers. There is a deck-house on the poop, having at the forward end the second-class smoking-room, and at the after end second-class cabins, the latter adjacent to the companion-way leading to the second-class dining-saloon and cabins below. One of the second-class cabins on the poop-deck is arranged so that it may be easily turned into a wireless-telegraph room. The forecastle deck is fitted with a strong breakwater, and carries the most approved equipment for handling the vessel safely and expeditiously.

The upper deck has a large number of cabins for officers and engineers. There is also the main dining-saloon forward of these rooms, with the first-class pantry immediately abaft it. Further aft there are more state-rooms, one of which is specially large and furnished superior to the other state-rooms, and may be styled a *cabin de luxe*. There is also a photographic dark room in this vicinity.

The galleys are located at the aft end of the bridge-house. Of this portion of the upper

deck, the starboard side of the ship is given up to the chief steward, purser, doctor, dispensary, barber's shop forward, and officers' rooms aft, and the corresponding cabins on the port side are arranged for officers and engineers' mess-rooms forward, and engineers' rooms aft, The first-class passengers' accommodation at the fore end of the house is divided off from these spaces by doorways, so that the officers and engineers are entirely dissociated from the passengers, and, moreover, the engineers are berthed near to their work. The location of the doctor's room and dispensary is particularly good, being convenient for all classes of passengers and crew. The barber's shop is between the first and second-class quarters. The deck hands are berthed right forward under the forecastle.

The dining-saloon and cabins for the second-class passengers, also cabins for junior officers and laundry, are under the poop.

The lavatories are fitted with the most approved sanitary arrangements, and instead of being arranged in large compartments, they are distributed throughout the habitable quarters. The floors are laid with black and white encaustic tiles. All the baths for the first-class passengers are of Victorian porcelain. The sanitary appliances are supplied by Messrs. Shanks and Co., Limited. The first-class state-rooms are fitted with patent berths, supplied by Messrs. Hoskin and Son, Limited.

The intermediate and third-class passengers are accommodated on the main deck forward. The firemen and stewards are berthed aft on the same deck; thus the firemen may go to the machinery space or back to their sleeping quarters without passing by any part of the ship occupied by the passengers. Abaft the machinery-space a cold-chamber has been provided for providing the fresh provisions for the ship's *personnel*, and is quite distinct from the refrigerated holds for cargo. The chamber includes two meat-rooms, one fish-room, and one fruit and vegetable-room, and the total capacity is 2,800 cubic feet. The plant is capable of maintaining the temperature of the chamber at 26 deg. Fahr. when passing through the tropics with the machinery only working six hours out of the twenty-four. At the same time it can produce 3 cwt. of ice for table use. The plant was supplied by Messrs. J. and E. Hall, Limited. The remaining part of the main deck is given up to cargo, bunkers, silk-rooms, parcel-room, mail-room, baggage-room, and provision-rooms. The lower deck and holds are entirely given up to cargo.

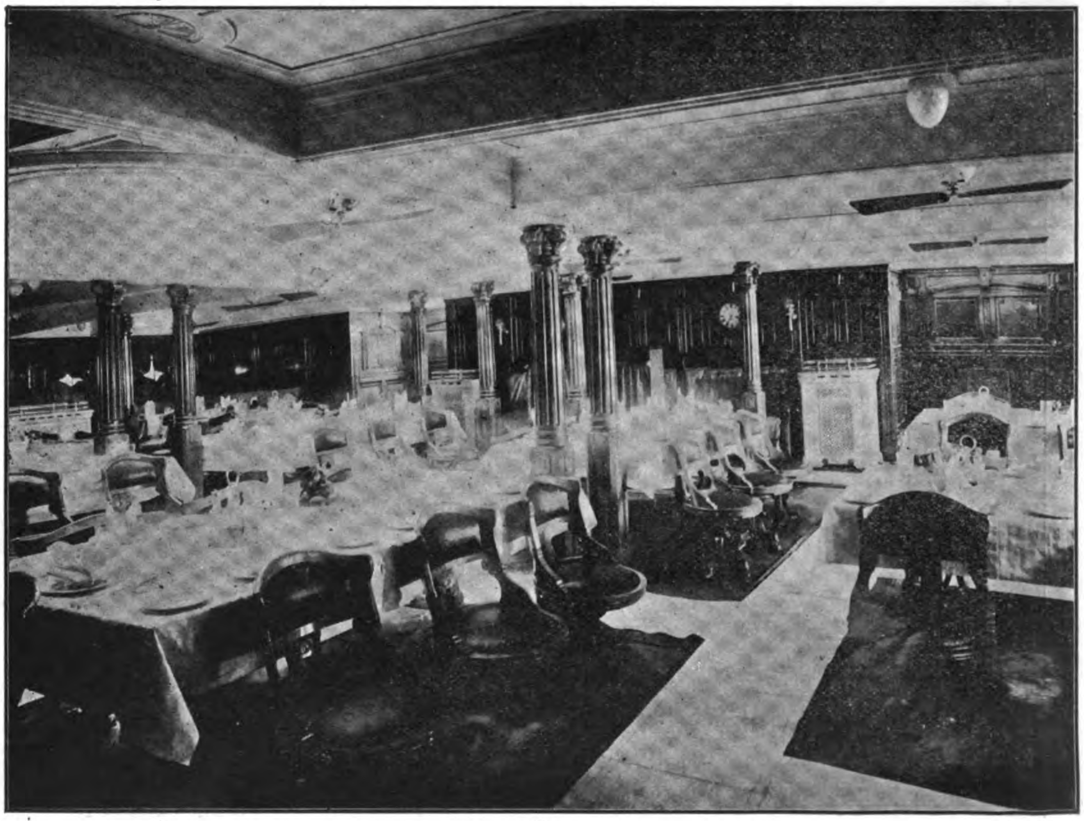
The vessel is propelled by twin screws, and these are supported at the outboard end by a cast-steel spectacle-piece attached to the stern-frame. The shafting is contained entirely within the framing of the ship, and for this purpose the framing is bossed out in spectacle form. The stern-frame has a screw port, as in the single-screw arrangement, although the propellers do not overlap. This enables the projection of the propellers outboard to be minimized, and reduces the extent of the bossing out of the framing. It also conduces to speed. The stern-frames, spectacle-pieces, and rudders, as illustrated, were supplied by the Darlington Forge Company, Limited. The rudder is worked by a steam steering gear by Messrs. Caldwell and Co., Limited. This gear is placed on the upper deck under the poop, and actuated from the navigation bridge; it is fitted with Hastie's patent friction-brake. Hand-gear is also fitted at the rudder head on the poop as a stand-by.

The scheme of the decorative features for all four ships was worked out on the same lines, with slight modification; the Kamo and Hirano are, however, exactly alike, as are also the *Atsuta* and *Kitano*. All of the decorative work was designed and manufactured at the builders' works.

The first-class drawing and social hall are adjacent to each other, and communicate directly with the main companion-way. The drawing-room is finished in white, relieved by pale-green silk panels, with autumn wild-flower design, and a panelled dado of polished white beech. The furniture is of white beech and maple, and the upholstery is of dark-green silk damask; the curtains and other hangings are also of dark green. The floor is laid with Wilton carpet of green shade. An Erard's grand piano occupies a corner in the drawing-room. The side of the well is decorated with art glass in nickel-plated frame-work. The social hall is treated in exactly the same way as the drawing-room.

The first-class smoking-room is treated in old Japanese style, moderated to suit European architecture. Stained oak is used throughout, and the floor is of interlocking rubber tiles. The upholstery is of dark maroon, and the hangings of Japanese tapestry of subdued and quiet brown shade, with a classic pattern. The roof is constructed in the clerestory style, with a large skylight having light-coloured stained

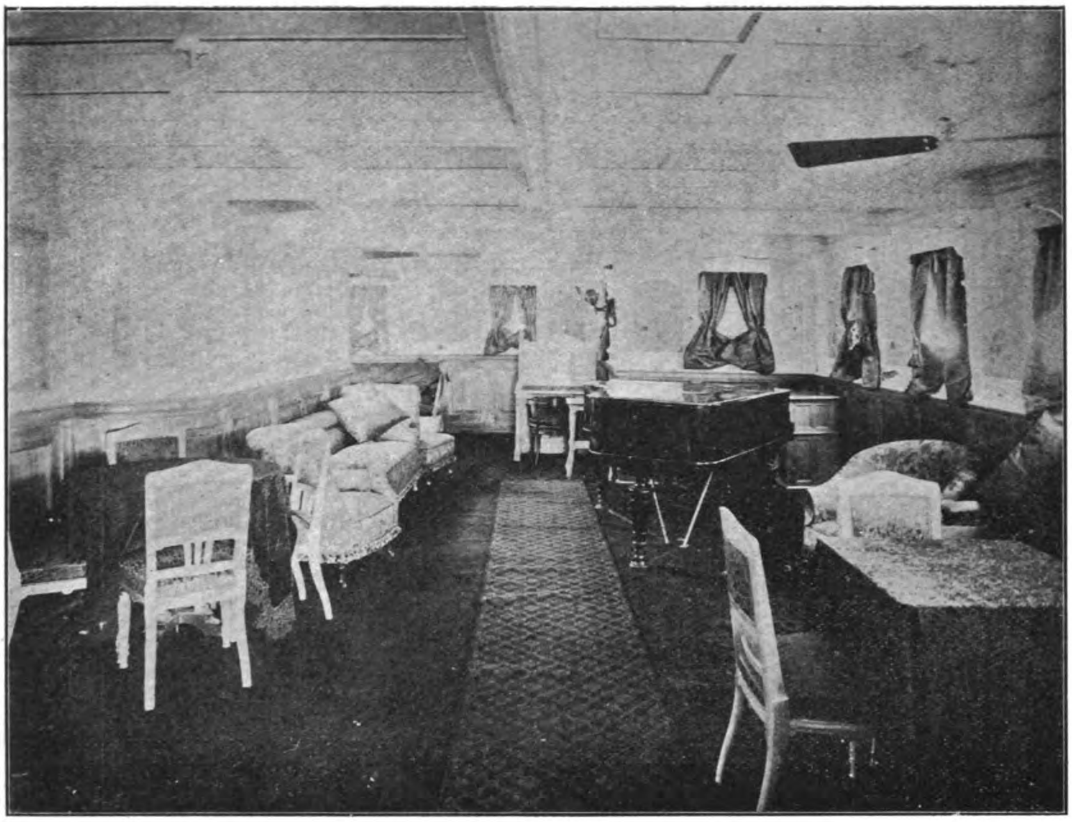
SOCIAL HALL, CHIYO-MARU



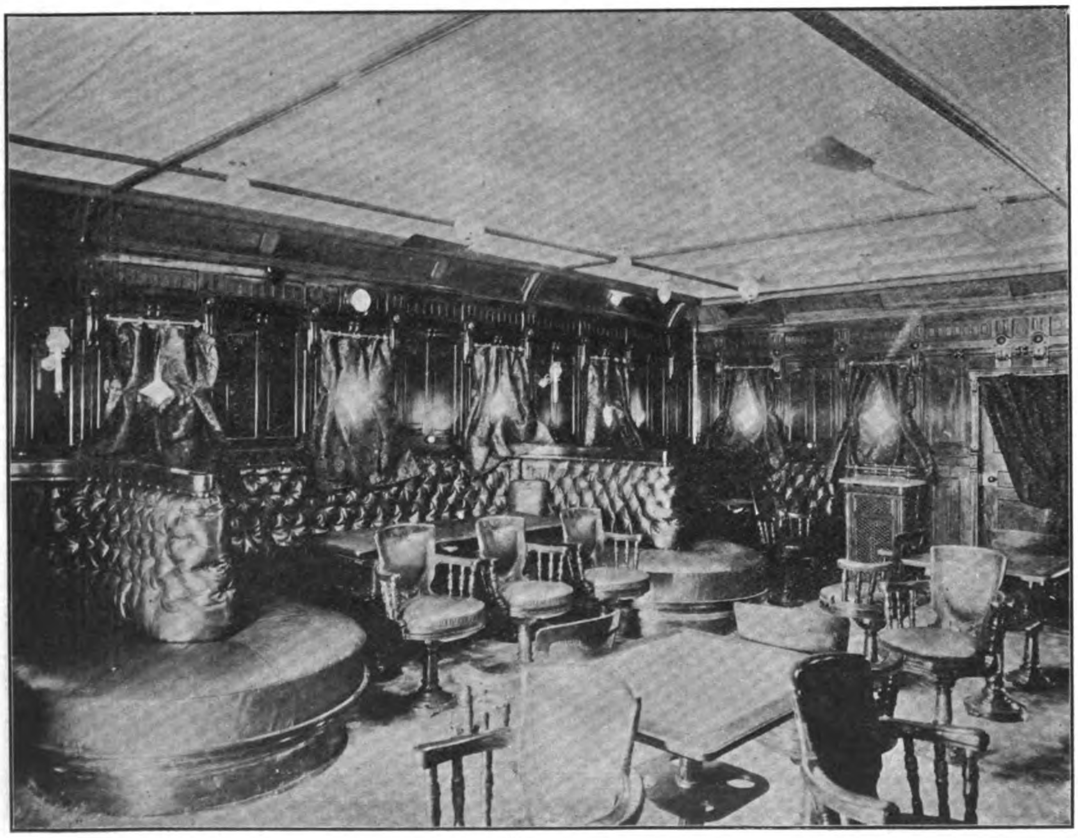
DINING SALOON, ATSUTA MARU

glass. The ventilation of the room by means of electric fans is very effective.

The first-class dining-saloon occupies the full width of the ship, and is 32 ft. long; seating accommodation is provided for sixty-eight passengers, so that all the first-class passengers may dine at one sitting. Only small tables are fitted, the largest being suitable for seven persons. The revolving seats have no arms, which increases the "elbow room." The feature of the decoration is its simplicity. There is an upright Erard's piano at the forward end of the saloon. Electric fans have been substituted for the punkahs over each table. The central well, while the main decorative feature, serves to facilitate ventilation, and has a length of 12 ft. and a width of about 9 ft. It has a stained-glass dome.



SOCIAL HALL, ATSUTA MARU



SMOKING ROOM, ATSUTA MARU

The vestibule on the promenade deck and entrance hall on the bridge-deck are panelled and framed in oak, and the floors are covered with neatly-designed interlocking rubber tiles. The stained glass work for the ships was manufactured by the Tokyo Stained-Glass Factory.

The electrical installation is comprehensive. The generating plant, located in the tunnel recess, includes two sets, each giving an output of 35 kilowatts when running at 300 revolutions per minute. The engines are of the self-lubricating type, and the dynamos are six-pole compound-wound. The current is transmitted by insulated cable of high conductivity, all wiring being done in double-wire distributing-box system. These machines, in addition to lighting the ship, provide current for driving fans. There are thirteen 36-in. ceiling fans in the first-class dining-saloon, five in the smoking-room, four in the social hall, four in the drawing room, four in the second-class dining-saloon, and two in the second-class smoking-room. There are also fourteen 18-in. fans for the ventilation of the holds, and forty-two 12-in. bracket fans for the first-class cabins. Throughout the ship there are lights equal in all to 8022 candle-power, and in addition ten cargo lamps of 200 candle-power each, two arc lamps of 3,000 candle-power each, and one search-light projector of 16,000 candle-power. The main switchboard has nine circuits: six for the lighting of the ship, one for the fan-motors, and one for the search-light projector. The engines and dynamos, fan-motors, and all fittings for the installation are of the builder's own design and make, and were fitted complete on the ships by the builders' workmen.

As regards the telephone service, there is on the navigation bridge a telephone communicating with the engine-room, the look-out at the forecastle, and with the aft boat-deck for docking orders. The telephones are of a pillar type and of the loud-speaking marine pattern of Graham's make.

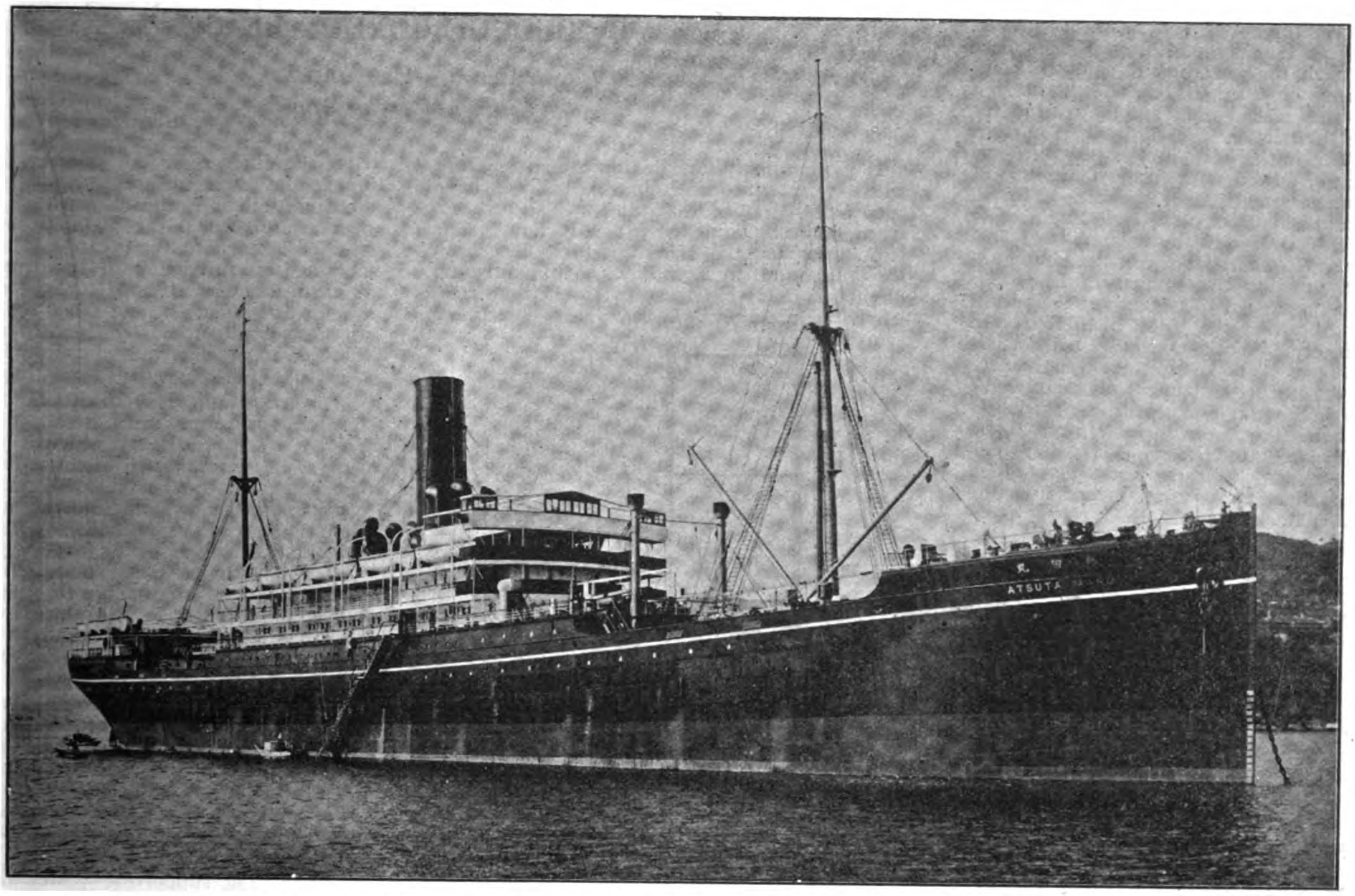
While the vessel is finished to first-class passenger steamer requirements, the cargo-carrying capacity of the vessels is of greatest importance in this line, and for dealing with the 6,000 odd tons of net cargo there are ten derrick cranes, four of which are capable of lifting 10 tons, and the others 6 tons. In addition to these there is fitted one special heavy derrick capable of lifting 40 tons weight. This derrick is worked by two 9-in. by 16-in. steam-winches working on one drum, and one hoisting winch for topping. Besides these winches there are eight steam-winches for working other derricks. All winches are of the builders' pattern and make.

The steam windlass with capstan is by Messrs. Napier Brothers, Limited, and is fitted with the makers' patent self-holding brake. One steam warping capstan by Messrs. Clarke, Chapman, and Co., is also fitted on the poop.

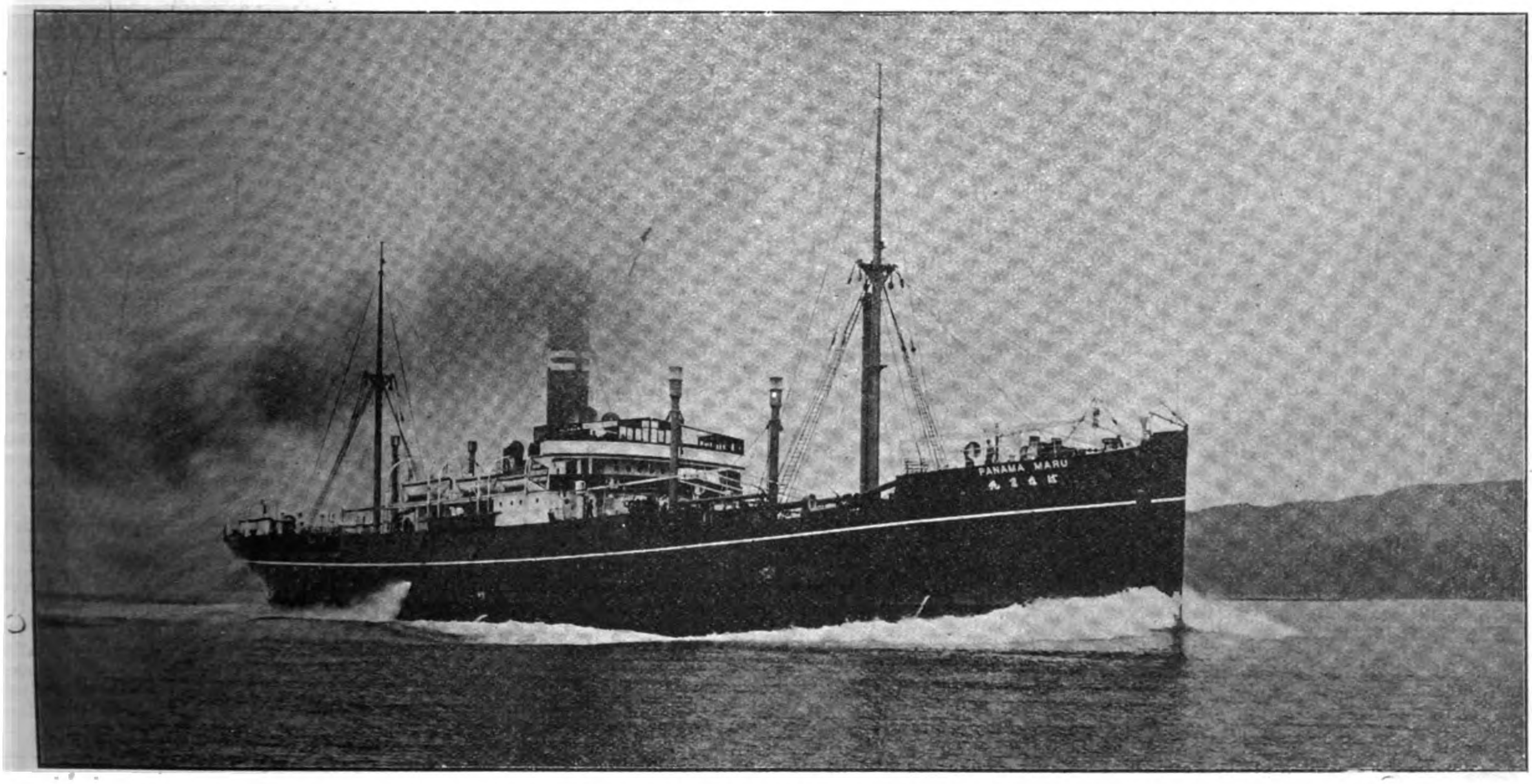
The ship's telegraphs were supplied by Messrs. Chadburn and Son.

A complete system of water supply is distributed throughout the ship, maintaining the continuous supply of cold fresh water, and hot and cold salt water, not only to all the sanitary quarters, but also to various galleys, pantries, sculleries, etc.

The history of the Nippon Yusen Kaisha has been a remarkable one. During the last fourteen years, twenty-four vessels with a tonnage of from 6,000 to 8,500 each have been added to its European and American service. The Nippon Yusen Kaisha was practically the outcome of the amalgamation of the Union Transportation Company and the Mitsu Bishi Mail Steamship Company in 1885 under Government patronage in the shape of a guarantee of an annual dividend of ten per cent to the shareholders. The Government reserved the right to nominate the chief officers of the company, but in 1893 the passage of the commercial law eliminated the government influence from the management. At this time the operations of the company were confined largely to coastwise trade and to China ports. Later the company extended its operations to India. When the war broke out practically all the steamers of the Nippon Yusen Kaisha were placed at the



S. S. ATSUTA MARU IN NAGASAKI HARBOR



S. S. PANAMA-MARU.—First of three sister-ships being built at the Mitsu Bishi Dockyard & Engine Works, Nagasaki, to the order of the Osaka Shosen Kaisha for its American Service.—Principal Dimensions:—Length, 400′ 0″; Breadth, 51′ 0″; Depth, 32′ 6″; Speed attained at her trials, 15 knots. Type of Engines:—1 set Triple Expansion Engines; Boilers, 4 Single Ended Scotch Boilers fitted with Howden's Forced Draft. Passenger Accommodation:—1st Class 8, 3rd Class, 180.

disposal of the government where they remained until the close of the war in 1905. During this time chartered vessels were employed in taking care of the China and Indian trade. When the vessels of the Nippon Yusen Kaisha fleet were returned, the government paid the company a bonus of yen 2,500,000 and of this yen 2,000,000 was placed in a special reserve for increasing the fleet by the addition of modern vessels. The initial step in the program was the placing of an order for six new steamers of 6,000 tonnage each. One was ordered from the Mitsu Bishi Dockyard and Engineering Works at Nagasaki and the balance from British yards. With the passage of the Shipbuilding and Navigation Encouragement Laws this number was increased to twelve vessels, two of which were built by the Mitsu Bishi Dockyard and Engineering Works and the balance by British builders. The last of these were launched in 1899 and since that time twelve more have been added, the last four and most modernly equipped being the *Kamo Maru*, *Hirano Maru*, *Atsuta Maru* and the *Kitano Maru* to which this article refers Of these last twelve added to the fleet, nine in all were launched from the Mitsui Bishi Dockyard and Engineering Company

As evidence of the growth of the Nippon Yusen Kaisha may be taken the increase in size of the fleet under its control during the last twenty-five years from a small aggregation of coastwise vessels to an aggregate of over 300,000 gross tons. The capital is now yen 22,000,000 with a reserve fund of yen 10,000,000.

In all cases the full-speed trials were run on the measured three-mile Government course outside of Nagasaki Harbor, under the supervision of the Government officials. The following table gives the results of those runs:—

*Mean Results of Full-Speed Trials of "Kamo Maru," "Hirano Maru," "Atsuta Maru," and "Kitano Maru."*

| | "Kamo Maru." | | "Hirano Maru" | | "Atsuta Maru." | | "Kitano Maru." | |
|---|---|---|---|---|---|---|---|---|
| Number of Runs | 16-6-1908 | | 16-11-1908 | | 15-2-1909 | | 12-4-1909 | |
| | Speed. | Revs. | Speed. | Revs. | Speed. | Revs. | Speed. | Revs. |
| | knots | | knots | | knots | | knots | |
| 1 down | 16.554 | 93. | 16.510 | 93.25 | 16.687 | 98.25 | 17.053 | 96. |
| 2 up | 16.284 | 93.5 | 16.621 | 93.25 | 17.387 | 97.75 | 17.218 | 97.25 |
| 3 down | 16.594 | 93.5 | 16.532 | 93.75 | 16.710 | 98.25 | 17.194 | 97.38 |
| 4 up | 16.467 | 93.5 | 16.598 | 93.75 | 17.314 | 97.75 | 17.266 | 97. |
| 5 down | 16.105 | 90.5 | 16.598 | 93.50 | 16.621 | 97.5 | 17.030 | 96. |
| 6 up | 16.084 | 90.25 | 16.554 | 93.75 | 17.266 | 97.5 | 17.194 | 96.25 |
| Mean of Means | 16.41 | .... | 16.57 | .... | 17. | .... | 17.19 | .... |

It will be seen that the performances of all the ships were exceptionally favourable and satisfactory. In service the four vessels have proved themselves most economical in working and have given every satisfaction to the owners.

# DYNAMIC FLIGHT

## By GEORGE GORDON BLACK

### PART 2.—HISTORICAL

*(Continued from April.)*

It is a curious thing in this connection that whereas fish, ships and dirigible balloons have been found to offer least resistance to progress when they are propelled in a direction in line with their length, birds and aeroplanes, on the other hand, are formed so that the direction of motion is at right angles to their greatest length. Here again we have a constructional

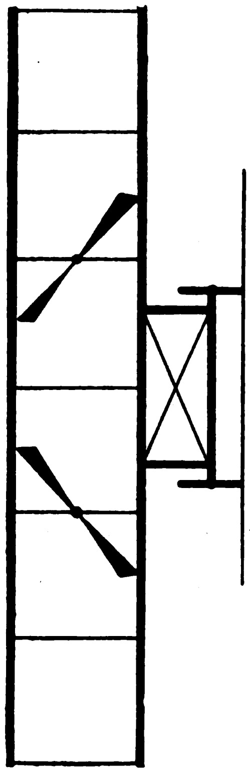


FIG. 2.—FRONT ELEVATION OF SUPERPOSED BIPLANE

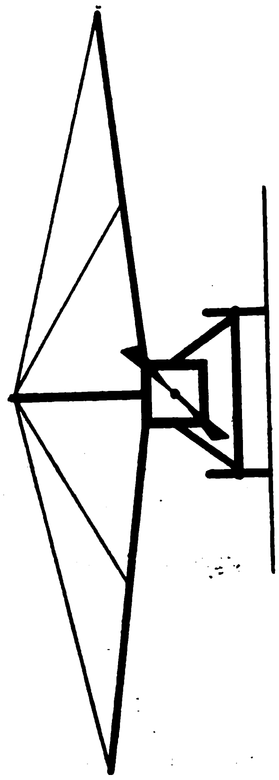


FIG. 1.—FRONT ELEVATION OF MONOPLANE

point that is not fully explained. The consensus of expert opinion would appear to indicate, however, that in a plane form which has very great depth in comparison with its entering edge the difference in air pressure between the upper and lower surfaces sets up a greater loss of energy than is the case with a wide span plane. Further, if the plane is made deep—and assuming that the greatest lifting effect is obtained in proximity to the front edge—it is clear that the after part of the surface will obtain little or no benefit from working in the air already disturbed by the forward part—in addition to which it will, of course, increase the resistance of the plane to progress through the air.

The actual amount of lift that can be obtained from an aeroplane varies in almost direct proportion to the angle at which it attacks the wind. Of course there is a limit but at any angle between 1 in 5 and 1 in 20 Maxim has proved that the lifting effect will be just as much greater than the drift as the width of the plane is greater than the elevation of the front edge above the horizontal—that is to say, if an aeroplane is set at an angle of 1 in 10 and 1 lb. pressure is employed in pushing it forward the lift will amount to 10 lbs. If the angle be changed to 1 in 16, the lift will be 16 times as great as the drift.

On first thoughts it appears that the correct thing to do is to set the plane so as to give the greatest lifting effect, but further consideration shows that by increasing the angle the resistance is also increased and greater power is required for driving the machine. A compromise must be arrived at therefore and observation of existing machines shows that the average angle is about 1 in 10.

Again, the supporting power of aeroplane surfaces set at small angles can be very much increased by accelerating their velocity for double the speed gives four times the lifting effect. In consequence of this the total plane area may be considerably modified by increasing the speed. Inversely, slower flying speeds can be obtained by larger supporting surfaces.

### PART 3.

In the previous article of this series I referred briefly to the cross-sectional form of plane surfaces, their angle of incidence and the question of speed in relation to weight-carrying capacity. We have now to consider the reasons for disposing the surfaces in the various familiar and characteristic forms.

Modern aeroplanes are divided into several groups each of which is known by a descriptive name that, in itself, signifies a number of surfaces and their relative positions. Thus we have the monoplane (Fig. 1), the superposed biplane (Fig. 2), the superposed triplane (Fig. 3), and the tandem biplane (Fig. 4), while in addition there are numerous combinations of plane surface distribution which may be termed just as the reader pleases. Those mentioned, however, represent the machines in the order of popularity.

From a purely mechanical point of view there appears to be no objection to dividing the total supporting area into a number of parts—providing that certain fundamental conditions are not overlooked—and hence the matter resolves itself into a question of convenience. A certain minimum area is essential and this quantity varies according to the speed at which the machine is designed to run. Supposing that an aeroplane is of 600 square feet surface and lifts a total weight of 1200 lbs.—2 lbs. per sq. ft.—at 35 miles per hour, it would obviously be impracticable to construct it with a single span of 100 feet by 6 feet deep. It is much more convenient to build it in two spans of 50 feet by 6 feet placed one above the other If, however, the same weight was required to be transported and the speed could be raised to 70 miles per hour, an area of 30 feet by 5 feet—not calculating increased resistance—would be sufficient and it could be made in one span only.

In superposing plane surfaces or placing them tandem fashion there is a factor of air disturbance introduced that must be compensated for, otherwise one of the surfaces will be affected by the displaced air from the other and its lifting power reduced correspondingly.

It is evident that the air, at the rear edge of a plane surface moving rapidly through the atmosphere, is deflected downwards at a considerable velocity and imparts in consequence a certain amount of resistance to the passage of another plane if placed in close proximity. To overcome this difficulty the underneath plane must be set at a more acute angle than ts fellow in order to give an accelerated speed to the air on which it is being supported and thereby obtain a greater lifting effect. The ame remark holds good for tandem planes which are in even a worse position since the rear surface must necessarily be working on the "backwash" of the front one. The difficulty increases also with the number of planes used, hence it would appear desirable to reduce the surfaces to the minimum quantity and, in the case of superposed biplanes and triplanes, to place them as far as possible apart. Observation of existing machines shows that the average distance between the planes is equivalent to their depth.

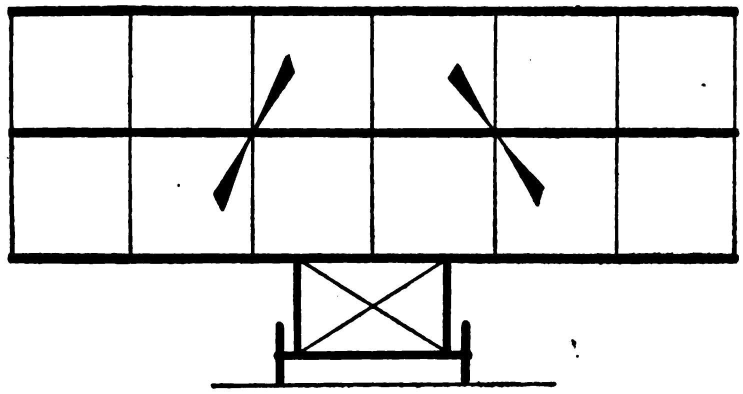


FIG. 3.—FRONT ELEVATION OF SUPERPOSED TRIPLANE

Such problems require to be worked out to suit the purposes of individual machines, the main point to be remembered being that the load carried bears a fixed relation to the length of entering edge—if we require to double the weight-carrying powers of an aeroplane its entering edge must be twice as long. At the same time a similar effect can be obtained by increasing the velocity since the additional impetus given to the air will impart to it a greater amount of weight-carrying power. According to Maxim double the speed gives our times the lifting effect and consequently the greater the lifting effect in proportion to the power employed.

This reference to velocity now raises an interesting point in connection with engine size. It is a curious fact that there is a certain speed to which every aeroplane can be driven, but beyond which no effect is obtained by increasing the output of the engine except to lift the machine. In the previous notes I have endeavoured to make it understood that angle of incidence is the factor upon which speed more or less depends. As the speed rises the angle decreases until at its highest flying speed the machine assumes an almost horizontal position where the centre of pressure on the plane is very near the front edge. If the aeroplane was forced beyond this critical point the centre of pressure would creep right to the front edge and then over it onto the top surface causing the machine to take a dive—which would possibly end disastrously as the pilot has no means of correcting it. If the engine speed is simply increased and the machine allowed to take its own course the natural effect is that the planes, having already reached the limit of their practical flying angle, will be forced upwards by the banking of the air. Of course—if the driver is addicted to that particular form of amusement—he might hold the machine's head down by manipulating the elevating rudder, but, as I have already pointed out, the only result of such a manoeuvre would be to cause the centre of pressure to change to the top of the plane and the aeroplane would drop like a stone.

### *Stability.*

Undoubtedly the crux of the whole of the aeronautical question lies in the matter of stability, and on no other point is there such a divergence of opinion even amongst the recognized authorities. Consequently "where doctors disagree" the present writer will confine himself to stating general principles only without hazarding any personal opinions.

Considering that longitudinal and lateral stability are affected only by wind variations, it would be possible to obtain natural stability of an aeroplane if a speed could be obtained that was greater than that of any natural current. For this Lanchester says that 90 miles per hour would be sufficient. The weight of a machine capable of travelling at this pace would be very great and it is calculated that its momentum would be sufficient to carry it safely through adverse winds. At the moment, however, this is not practicable, in addition to which there are very few people who have any particular desire to fly at such a speed—so we must consider the matter from the present point of view. Automatic stability is a very big problem and it does not appear in the least likely to be solved for quite a long time to come. In the meantime the next best thing to waiting for its arrival is to construct machines as inherently stable as possible and depend on human skill for the rest.

Inherent stability in the line of flight may be attained to a certain extent by affixing a tail at some distance behind the main planes (Figs. 5 and 6), its effect being to damp any small oscillations caused by speed or wind variations. Whether a device of this kind is really an advantage or not is a matter of opinion since it must necessarily slow the machine, but at the same time as the oscillations take a longer time to affect the balance the driver has more time to think and act. The French school of thought favours a combination of tail and hand-controlled devices, but the American school (headed by the Wrights) prefer to depend on hand control entirely.

This hand control takes the form of a small horizontal plane fitted, on biplanes, in front of the machine (Fig. 5), while on the monoplane type of craft it is arranged beside the tail (Fig. 6). The amount of leverage obtained varies, of course, in proportion to the distance it lies from the centre of lifting effect but, as the strain on the small plane is very considerable, the struts holding it down must necessarily be made very strong and heavy. The elevator has the work of carrying the weight of these struts and consequently a definite limit is imposed on its distance from the main planes.

When pointed downwards the elevating rudder offers sufficient resistance to the air to drag the nose of the machine downwards, while in the opposite position the aeroplane tends to rise.

The lateral stability can also be rendered automatic to a limited extent by setting the two halves of each single span at a slight dihedral angle (Fig. 1). When a machine so equipped heels over the lower of the two sides sets up a greater amount of resistance to the air than the higher side and there is a distinct tendency for it to right itself—the action being somewhat similar to that of a boat when it rolls. A hand trimming device is necessary however and usually consists of a pair of small planes attached to the main wings and capable of movement in opposite directions. In the Wright machine the tips of the main planes are warped instead.

When a gust strikes the aeroplane on (say) the off-side the machine will tilt over bodily in the opposite direction. If at this moment the movable tip on the near side be depressed (and the other raised) the resistance of the near side will be increased and it will rise.

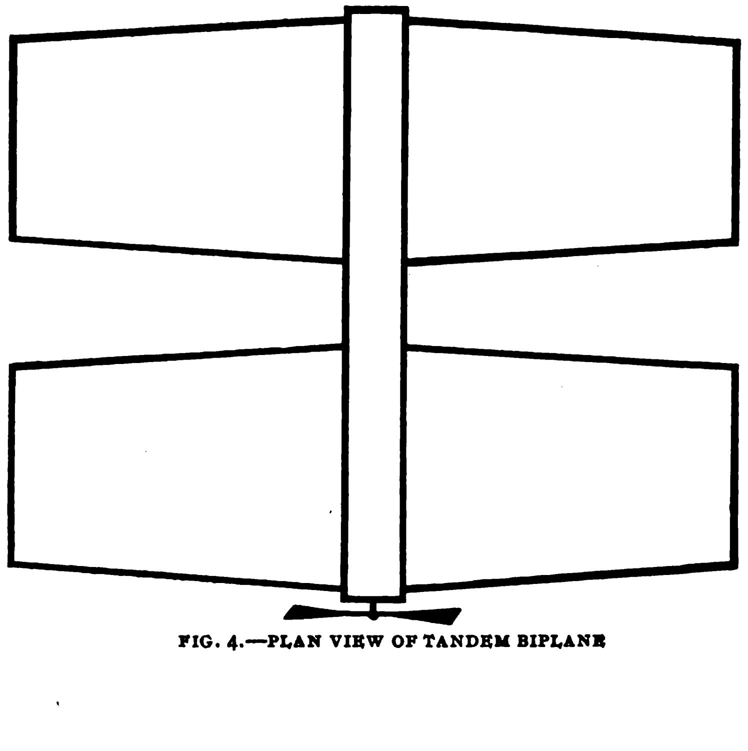


FIG. 4.—PLAN VIEW OF TANDEM BIPLANE

Turns are effected by means of an ordinary vertical rudder (Figs. 5 and 6) which the driver puts over in the desired direction. When the machine swings round, however, the outer edge of the wings tilt upwards because of the fact that they are travelling at a greater speed than the inner edge and consequently creating more wind support. To check this tendency the ailerons (as the wing tips are called) are dipped on the lower side while the turn is being made and as the resistance is thereby increased at that point the machine does not overbalance.

*Air Speeds.*

Although the speed at which an aeroplane travels is generally calculated in miles per hour, it must be remembered that this is not equivalent to a corresponding number of miles per hour on land because the rate of travel of the surrounding air has to be taken into account. For instance, supposing that we have an aeroplane capable of accomplishing a speed of 50 m. p. h. in calm weather it follows that if a wind of 30 m. p. h. is blowing against it the actual rate of progress will be 20 m. p. h., or if a gale of 60 m. p. h. is blowing the machine will "progress backwards" at the rate of 10 m. p. h.

Similarly if the aeroplane has the wind behind its speed will be equivalent to the speed it is capable of making plus the speed of the wind. If it is travelling at 50 m. p. h. and a 30 m. p. h. breeze is blowing the rate of travel will then be 80 m. p. h.

This peculiarity of flying speeds has given rise to a curious misunderstanding regarding the question of "hovering." Owing to the fact that at certain recent aviation meetings the aeroplanes appeared to be standing still (because of the wind speed and the machine speed being approximately equivalent) the impression gained was that some aeroplanes were capable of remaining motionless over one spot. It must be remembered, however, that the engines were kept running all the time for if they were stopped when aloft the machine would be blown backwards. If the wind and aeroplane speeds are the same, although the machine itself does not actually progress yet it is making a steady speed through the air which is equivalent to the speed of the wind.

FIG. 8 —A CHANVIERE "INTEGRAL" PROPELLER

A precisely similar effect is experienced at sea. If a 10-knot boat is running against an 8-knot current it is really only doing 2 knots per hour. If the speed of the current is 10 knots the boat will remain motionless so long as the engines are kept working. If the current was 12 knots and the boat still headed against it the rate of progress would be 2 knots per hour, but backwards. On the other hand if the boat is running all out with a 12-knot current in its favour its speed would be 22-knots per hour.

*Constructional Details.*

In addition to those particular points already enumerated there are a number of constructional details which require very careful attention to secure the highest degree of efficiency in

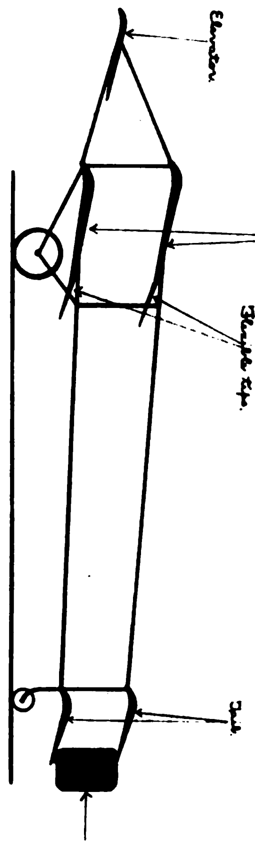


FIG. 5.—DIAGRAMMATIC SKETCH SHOWING ARRANGEMENT OF CONTROLLING DEVICES ON A BIPLANE

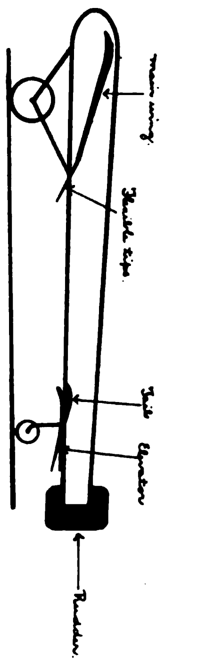


FIG. 6.—DIAGRAMMATIC SKETCH SHOWING ARRANGEMENT OF CONTROLLING DEVICES ON A MONOPLANE

working. Chief of these is the question of skin friction of the surfaces and, although authorities differ as to whether it is really of very great moment, there can hardly be any doubt that a

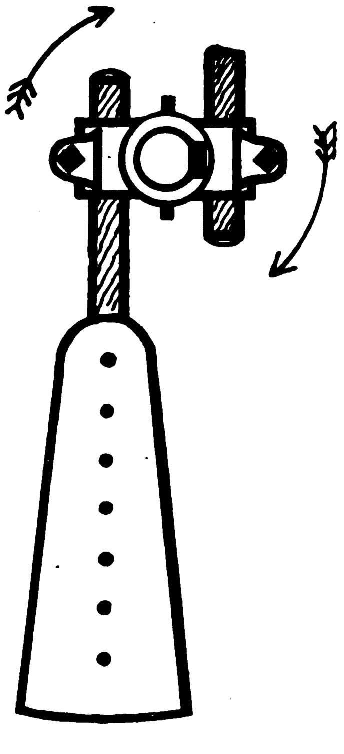


FIG. 7 —THE VOISIN ADJUSTABLE PROPELLER

well-designed smooth-surfaced plane is bound to give better results than one which is roughly made. Observation of the leading machines shows that some are extremely well-finished in this respect while others are just the reverse. On the original Wright biplane a canvas material was used which, although waterproof, was not smooth. Bleriot uses a beautifully made material proofed on both sides with rubber and most of the later aeronauts have followed his example. Such cloths are now made by the big tyre manufacturers.

Since the resistance of an aeroplane increases as the square of its velocity all the struts and stays of the framework should be so designed as to offer the minimum amount of resistance. It has been proved by experiment that the ideal form is more or less fish shaped—that is, having a bluff entry and a very fine run aft. The shape of the body of the monoplane shown in Fig. 6 gives some idea of this particular form.

Next to stability propellers are perhaps the most disputed point in the whole question of aeroplane design and rightly too when one considers that the success of the machine depends almost entirely on their efficiency. Propeller design is a branch of aeronautics entirely by itself, and a very highly mathematical one at that, consequently the prospective aeroplane constructor would be well-advised to buy his propellers from one of the big makers rather than waste time and money in experimenting with them.

The Voisin brothers fitted a very crude type of propeller (see Fig. 7), made of two sheets of metal rivetted to an iron bar, on their early biplanes. Both blades could be adjusted for pitch and diameter by means of the special hub-fitting shown in the illustration. The efficiency was only about 40% however, probably because of the flat-shaped blades and the air disturbance created by the iron arms on the backs.

Bleriot's monoplanes are fitted with wooden propellers (Fig. 8), having curved blades and a fixed pitch. They are built up with a number of pieces of French walnut, then covered with fine canvas and highly varnished. The idea of the canvas covering is, of course, to prevent "fraying" at the edges. Their efficiency is said to be as high as 68%, and this seems not improbable in view of the wonderful performances made on the Bleriot machines.

(*To be continued.*)

# INDUSTRIAL DEVELOPMENT IN THE PHILIPPINES

Since assuming the duties of Executive of the Philippine Islands, His Excellency, Governor General Forbes, has devoted all his efforts to the encouragement of greater effort in the different departments of industry. In this program he has received the support of the great majority of progressive Filipinos as well as foreigners and Americans in the islands. However, there is a voice raised occasionally in opposition to the administration policy that is far from harmonious and which sometimes finds willing ears in the United States. An instance where an effort has been made to embarrass the Philippine administration is that of the protest raised by Congressman Martin of Colorado against the sale of a large tract of wild land in Mindoro to the Mindoro Sugar Development Company. There is little doubt that had the gentleman from Colorado been familiar with his subject, he would have refrained from actively participating in a controversy the end of which would surely make him ridiculous. But he received an endorsement from Manila in the form of a resolution adopted at a meeting of a limited number of agitators who never engaged in agriculture and whose interest in the healthy development of the country has never been a matter of record. This questionable encouragement was all Mr. Martin, in his ignorance of conditions, thought necessary to authorize him to add a few charges against officials to his original quota, all of which were as unfounded as the former. In the meantime, while the matter was being thoroughly aired, the agitator class were encouraged to greater activity. The inclusion of the Moro Province and other sections of Mindanao within the jurisdiction of the Philippine Assembly was agitated. Mindanao, with the exception of a couple of provinces, has been governed directly by the Commission for the reason that a strong central force was necessary to maintain order among the Mahomedan and pagan tribes in that region.

Governor-General Forbes believes in the settling of the country and the development of the jungle before any consideration be given a change in the political status. But the agitation has been so continued that the few scattered natives in the Moro Province have become imbued with the false doctrine and, heedless of the disaster to themselves that would surely follow, have set themselves the task of importuning the government for a change in the political status.

It is gratifying to note the firm position taken by the Governor-General at this time. This may best be shown in an address made by him at Zamboanga, where he gave the political agitators a characteristic answer which ought to be final and at the same emphasized his well-known policy of industrial development. He said in part:

"I am sorry that none of the distinguished Filipinos who have come here to greet me today have presented any suggestions or arguments touching any of the real points at issue in this province; that they have not shown me how I can assist them in bettering their condition by increasing the prosperity of the province. The real problem before the Philippine people is not their political status; that is fixed both here and in other parts. The real problem is the industrial development, and by industrial I mean agriculture, manufactures, and commerce. What we want to do is to increase the products of the Islands, and my advice to this distinguished gentleman who has been talking to us, and to his friends and other people who have been thinking about political changes, is to get busy and devote their attention to the practical questions confronting us—things for which there is something to be done. I have come here to do what I can to help the people to better their condition, to increase the products of rubber, hemp, cocoanuts, sugar, tobacco, lumber, and other things by which money can be made. I want to have, when I come again, Filipinos crowd round me and present suggestions of ways to enable the people to live better, have better houses, better food, and better clothes. No change in the civil status of the government will do that. The government is good enough now; it is all right. To those of you who doubt whether it is a civil government or not, I wish to state that the present government of the Moro Province is purely civil; that General Pershing, although he holds military rank, is a purely civil official in so far as he is governor of the province. I am also happy to inform you that I have found that General Pershing and I are in complete accord; that our views are the same; that we have agreed upon the policy which we will pursue, and anything he says may be taken as being an exact expression of my ideas.

"I liken the improvement of Manila and the means of communication coming in and out of Manila to making sure that the heart is all right. Manila is the heart of the whole archipelago. I am speaking now commercially. Getting the valves and veins and everything working right in the heart will stimulate the movement of that part, which will throw the blood strongly, making it reach every part of the body, to the benefit of the whole. For that reason I think we can not devote ourselves too carefully—and I have devoted my attention to this for the last five years—to making sure that we can handle goods in Manila cheaper than in other places. I want it to compete favorably with the ports of Hongkong, Singapore, and the other ports of transhipment. We have no harbor dues; we have very low wharf dues and that sort of thing. The figures which were presented to me by the collector of customs for the amounts to be charged for the use of wharves I cut in half, although he said he could not cover operating expenses. I told him that we have got to have the port running at a low cost to shippers. I want them to know that the cost here is less than elsewhere. He pointed out that the figure he suggested was about one-half that of other places and one-fourth that of New York. Nevertheless, we cut his figures in two. We want to make the Philippines a place where the captains will all say, 'Take me to Manila.' Heretofore, when I came out here and I believe the practice still exists in some ports, officers of the steamships would try to avoid coming to the Philippines."

Needless to say, the address was welcomed by the progressive settlers of the Moro Province as well as the commercial interests throughout the islands. It settled definitely the status of that important section of the islands that is just beginning to receive attention and has promise of a great future under the firm yet liberal government established there. To change the status at this time would only result in creating a feeling of insecurity and discourage investment and colonization. The Mahomedan and wild tribes are now kept well under control by United States troops supplemented by Philippine Constabulary, but should there be any change that would retire the military from the control of that territory, there is no doubt but that the settlements would soon be wiped out.

As regards the Mindoro land deal, it seems strange that any objection should be raised to the desire of the government to encourage the increase of the acreage of sugar. The land had lain idle for years and the government was obliged to pay interest on bonds representing the purchase price since it was taken over from the religious corporations. Every effort had been made to induce settlement by natives but without success; and when a purchaser appeared having sufficient capital to make 52,000 acres of jungle a producing area, the Government did not hesitate to sell. Indeed, if it had refused the offer, then the spirit of policy of advancement, of progress, of development and of ultimate prosperity, with which Governor-General Forbes is identified, would have been violated. The sale of the Mindoro jungle and the address of the Governor-General at Zamboanga are both conclusive evidences of his consistency and his sincerity.

## THE SZECHUEN-HUPEH RAILWAY QUESTION

The following copy of an "Open Letter" to the *North China Daily News* has been received with a request for its publication:

"THE SZECHUEN-HUPEH RAILWAY

(An open letter).

To the Editor of the
*N. C. Daily News.*

Sir:—

"In your issue of April 7th there was published a long communication from a Chengtu correspondent on the subject of the Szechuen Hupeh Railway. In the letter he makes among other statements the following regarding the accounts of our railway: that the accounts succeed in obscuring many points, but give no balance sheet which could be understood by any auditor; that one does not know what to make of these entries (on Interest and Mint), or how to reconcile the amounts—especially under Mint; that there are two hundred employees filling no less than 122 different offices; and that nothing has been done in the way of construction and yet between five and six million taels or over a third of the total capital has disappeared, etc., etc. It is not difficult for me to appreciate the underlying motive of the writer, who is evidently under the impression that if he succeeded in discrediting the purely Chinese commercial roads, perchance they might by agitation be transformed into loan railways. It is really hardly worth my while to enter into a controversy with your correspondent whose comments, not being based on facts, are utterly worthless. That his misstatements, however, may not deceive the uninformed readers of your paper, I venture to send you these lines.

"That there may appear (to foreigners) redundancy and overlapping in the entering of items on the balance sheet is a charge I am willing to admit, but to say that 'the accounts succeed in obscuring many points and give no balance sheet which could be understood by any auditor' is a deliberate falsehood. According to the Chinese system of keeping accounts, every sum of money that is paid out (no matter whether it is a loan or appropriation that has been repaid) is immediately entered under the head of 'expenditnre.' The same sum when repaid appears again under 'receipt.'

"For instance, take the item Interest, which appears on both sides of the balance sheet. Interest was paid to the shareholders (Tls. 870,347) under 'expenditure' and was received from banks and other sources for capital deposited with them (Tls. 1,932,126) under 'receipt.') Instead of one entry for interest received less interest paid out, as would perhaps be done in a foreign system of accounts, in our system, two entries are necessary. Again, take the entry under Mint (Tls. 2,126,693). Because construction work on the railway had not begun and the amount collected on shares was very large, it became necessary that the money be invested, and so the two million odd taels was loaned to the Mint at Chungking. Soon after, the closing of the Mint was ordered, and the sum was returned to the railway, hence the same entry on the 'receipt' side of the balance sheet.

"Your correspondent, who did not take the pains to inform himself, was also puzzled with the items 'Native opium forced tax' and 'Opium lamp forced tax.' The fact is, when the Mint was closed up and had to repay the railway the two million odd taels advanced to it, the officials found that they were short of some six hundred thousand taels, notwithstanding the sums raised by the sale of the copper in stock, and two official appropriations. His Excellency Hsi Liang, the then Viceroy, therefore gave instructions that the shortage should be made up from the Native opium and the Opium lamp taxes. These taxes are a part of the provincial revenue, but have been set aside by the Viceroy to help pay the expenditures connected with the organization of the railway company. These taxes, however, cannot be regarded by the railway as a part of its regular income, until the indebtedness (six hundred thousand odd taels) of the Mint has been first cleared. Hence, the same item

appears under 'Opium tax repaid to Mint' on the 'expenditure' side of the balance sheet. So much for explaining the balance sheet.

"Since the organization of the company the total expenditure up to the end of the fifth moon of last year amounted to only Tls. 1,373,302.00. Your correspondent was guilty of gross exaggeration when he wrote 'between five and six million taels or a third of the capital has disappeared.' Even by the Chinese system of accounting, which as explained above makes the totals very much larger than they really are on account of overlapping entries, your correspondent has intentionally or otherwise mentioned a sum nearly two millions more than that of our balance sheet. He was also guilty of hoodwinking your readers, because he omitted to point out that certain sums on the receipt' side have really the effect of cancelling items in the 'expenditure' column, thus reducing materially the totals.

"A word in reply to his stricture that there are 249 employees filling no less than 122 diferent offices. Your correspondent evidently was ignorant of the fact that the capital of the railway is largely land tax shares from the various districts. Now Szechuen has over a hundred districts; hence it is nothing extraordinary that there should be over a hundred offices.' Permit me to inform you further that each 'office' is allowed only Tls. 200 on very Tls. 10,000 worth of shares collected, and the allowance covers the expense of remitting the share money as well. I should like to be nformed of a cheaper way of floating shares by any banking institution in foreign countries.

"Your correspondent further says 'For ten years the Chinese have decided to build the line themselves,...... There is, at the present moment, a great deal of frantic excitement and hysterical talk, all directed to fomenting the anti-foreign propaganda now in full swing. The ending results in the way of progress are very disappointing.' He concluded by saying that 'the powers that constitute the central government are making a great mistake in remitting the railway constructing policy of the Empire to the varying incompetencies of the Provinces. The line will have to come eventually under foreign expert and financial assistance or it will never be constructed.' From his words, one infers that he should like to see the railway rights of the whole Empire handed over to the foreigners, and I am astounded at his advocating such a policy. Now even in foreign countries in the construction of railways, whether the capital is to come from subscribed shares or from loans is decided by the condition of national finance. In the case of state lines, the capital generally comes direct from the state treasury, so that perfect control of the railways lies in the hands of the government. Where necessity demands the borrowing of foreign loans, the rights of control are impaired and interference in the financial management is a matter of course. As a further consequence the loan syndicate expects to have a voice in the employment of men and purchase of materials for the railway. The people of China, taught by the bitter experiences of the past, have unanimously demanded of the Government to permit the construction of provincial lines with provincial funds, and receiving the consent of the Government, we have organized various provincial railway companies. This movement is aimed at the preservation of our rights and has nothing to do with any anti-foreign propaganda. I had the honor to express this opinion in my speech at the annual meeting of the shareholders last year.

"The Szechuen Railway Company has on hand over ten million taels, and there is an annual income from shares and other sources of over two million taels. The Chief Engineer, Dr. Jeme Tien-yow, and the acting Chief Engineer, Dr. Yen Te-Ching, were instrumental in building the Peking Kalgan Railway, the success of which is known to every one. If they are not experts, who are experts? I fail to understand the meaning of your correspondent, when he says that 'this line will have to come under foreign expert and financial assistance, or it will never be constructed.'

"The other strictures of your correspondent have to do with administrative acts of the Company, which has full power to execute them in the manner it thinks best. Hence, it shall not be my purpose to notice them at all, no matter whether he misrepresented facts or not.

I am, etc.,

(Signed) Li Chi-hsun,

*President of the Szechuen Railway Co., Ichang.*"

The correspondence published in the *North China Daily News* and to which the above refers, follows:

"THE SZECHUEN-HUPEH RAILWAY

*From a Correspondent*

Chengtu, March 9.

A CHINESE STATEMENT OF ACCOUNTS

"As you are aware, the loan for this railway has occupied the attention of all Europe and America as well as China for a very long period. It is to-day as far from a settlement as ever.

"For nearly ten years the Chinese have decided to build the line themselves. They have energetically endeavored to persuade investors to buy shares, they have also for years collected forced taxes, until the total sum from all sources has reached the respectable total of roughly Tls. 16,000,000, say £2,000,000. The subscribed shares are about 25 per cent of the whole, the remaining 75 per cent being forced taxes.

"There is at the moment a great deal of frantic excitement and hysterical talk, all directed to fomenting the antiforeign propaganda now in full swing. The ending results in the way of progress are very disappointing.

"I have been able through friends to get an original copy of the statement of accounts published in response to the popular clamour. They succeed in obscuring many points, but give no balance sheet which could be understood by any auditor, much less certified as correct as even establishing the actual and exact financial position. Let me quote some facts and figures.

"The documents showing the accounts, which I possess, are twelve very large sheets, and when spread out would cover the floor of an ordinary room. These accounts were only issued in January this year. Another group of shareholders are now working at them and a further statement is promised this year. In this way they keep themselves amused and employed while the funds daily grow less. Along these lines the railway will never be completed.

"A circular was sent out on August 26, 1909, registered at the Imperial Post Office, strange to say, as a newspaper, to the shareholders, inviting them to a meeting in Chengtu from November 26 to December 8, 1909. Some 657 men answered to their names when the meeting opened, these men came from widely scattered districts all over these Western Provinces. The delegates are paid from the Railway funds $2 a day travelling allowance and 50 cents a day for living expenses while at Chengtu. According to the regulations a shareholder must hold Tls. 2,500 shares to be entitled to vote and, in the case of a voluntary subscriber or shareholder, is limited to twenty-five votes, whereas the delegate representing the forced tax may cast an unlimited number at the rate of one for each Tls. 2,500. The Pahsien delegate as a matter of fact had 125 votes for the forced tax from that district, which shows a discrimination against the private shareholder as against the official representative of the tax contributions. When the tax receipts reach 50 millions the income from that source will cease, and the line will have to depend entirely upon the private or voluntary shareholders. Judging from the rumours that are going round the country, as expressed to me by several shareholders, I think it extremely improbable that they will raise from the public investor the 65 millions they have set out to get.

"The following is an abstract or balance sheet to which I append a few notes.

| Dr. | Tls. |
|---|---|
| Shares privately or voluntarily subscribed | 2,761,450 |
| Forced tax shares (on land) | 7,155,540 |
| Native opium forced tax | 892,973 |
| Opium lamp forced tax | 336,853 |
| Interest on share capital | 1,932,126 |
| Interest on public funds | 76,938 |
| Copper coinage mint | 2,107,304 |
| Salt and tea taxes | 94,088 |
| Miscellaneous receipts– | 29,921 |
| Deficit copper mint | 19,389 |
| Tls. | 15,405,952 |

| Cr. | Tls. |
|---|---|
| Interest paid away | 870,347 |
| Convoys | 214,410 |
| Students | 265,988 |
| Inquiry commission | 7,336 |
| Purchase of implements | 44,743 |
| Salaries | 192,455 |
| Building | 67,726 |
| Surveys | 108,400 |
| Printing | 86,820 |
| Maintenance | 10,592 |
| Land purchase | 21,922 |
| Transport | 5,197 |
| Cost of remittances | 69,768 |
| Postage and telegram | 9,237 |
| Copper Coinage mint | 2,126,693 |
| Miscellaneous | 256,754 |
| Rent | 2,902 |
| Engineers Department | 9,054 |
| Opium tax repaid to Mint | 613,652 |
| Balance in hand | 10,421,958 |
| Tls. | 15,405,952 |

Purchased Shares. These have steadily declined from Tls. 2,535,697 in the 1st year to Tls. 136,890 in the 2nd and finally Tls. 87,863 in the 3rd year. Subscription has now practically ceased and if one may believe the common rumours the public will have learned from the 600 odd delegates' reports something as to the real financial situation. These rumours have shattered public confidence.

"Indeed, a public official states to me that in his opinion they would never build the line and that in three years or five at the most the last step would have been taken when the aid of foreigners would have to be requisitioned.

"Forced Shares. The yield from this source, as it is a fixed compulsory tax, has been more or less regular.

"Opium Tax. The receipts from this source if the present prohibition policy is sustained will cease altogether.

"Interest and Mint. One does not quite know what to make of these entries or how to reconcile the amounts—especially under Mint. It is to be noticed, however, that the interest paid increases annually 1st year Tls. 160,376, 2nd year Tls. 243,681, 3rd year Tls. 466,269.

"Salaries. There are 249 employees filling no less than 122 different offices. If the Chinese are babes in railway matters they are expert past masters in this particular department and could probably give a good many points to home railway directors on the look-out for an opportunity to increase the number of its offices and fortunate holders of the same. What can possibly be the duties of all these offices and officers in a Railway which is still only 'n the air?'

"There are three General Managers drawing respectively Tls. 500, Tls. 300, and Tls. 200 a month. Three Inspectors of correspondence, etc., at Tls. 100 a month each. Three Managers at Tls. 100, Tls. 220 and Tls. 300 a month respectively. Also an agent at Hankow enjoying Tls. 300 a month. Possibly a part of his duties may be the maintenance of the agitation against foreign loans and interference at that point.

"The Engineers are remarkably well. Jeme's salary as Engineer-in-Chief is not set down, but the assistant chief Yen gets Tls. 810 a month. Engineer Lu gets Tls. 620 a month. Other engineers draw monthly pay as follows:

| | Salary. | Travelling allowance. | Monthly Total. |
|---|---|---|---|
| Su | Tls. 250 | $140 | Tls. 350 |
| Keng | 250 | 105 | 325 |
| Wen | 200 | 173 | 322 |
| Chen | 200 | Tls. 45 | 245 |

"The cadets get what is certainly princely salaries for Chinese youths, varying from $133 to $233 per month. All the highly paid men are Szechuanese to a man. Naturally all these are enthusiastic, as long as the funds last, for a Chinese railway as opposed to a foreign loan with all strictness of foreign oversight and control.

# CONTRACTING NEWS

BIDS OPENED. SHANGHAI MUNICIPALITY.—20 Induction Motors.—Bid of Messrs. Jardine Matheson & Co., Ltd., accepted, Bergmann Motors, £855. 8. 3., delivery 20 weeks.

The remaining tenderers are as follows:

| *Name of Tenderers.* | *Makers.* | *Delivery Weeks.* | | *Price.* | | |
|---|---|---|---|---|---|---|
| Samuel, McGregor & Co | Bergmann Electrizitats Werke | 24 | (*a*) | £ 789 | 9 | 3 |
| ,, | ,, | 24 | (*b*) | 807 | 11 | 6 |
| Siemens Schuckertwerke | Siemens Schuckertwerke | 18 | | 845 | 5 | 0 |
| Samuel, McGregor & Co | Bergmanh Electrizitats Werke | 24 | (*c*) | 880 | 11 | 9 |
| ,, | ,, | 24 | (*d*) | 947 | 7 | 0 |
| Shewan, Tomes & Co | Rhodes Motors, Ltd | 13 | | 952 | 10 | 0 |
| ,, | British Westinghouse Electric & Manufacturing Co | 14 | | 952 | 12 | 6 |
| Shanghai Electric & Asbestos Co., Ltd | The General Electric | 15 | | 996 | 11 | 0 |
| Ilbert & Co | Greenwood & Batley | 15 | | 1,064 | 7 | 0 |
| Melchers & Co | Bergmann Electrizitats Werke | 26 | | 1,074 | 5 | 2 |
| Arnhold, Karberg & Co | Allgemeine Electrizitats Ges | 17-19 | | 1,076 | 0 | 0 |
| Brush Elect. & Eng. Mfg. Co | Brush Elect. & Eng. Mfg. Co | 15 | | 1,087 | 19 | 0 |
| Brighten, Malcolm & Co | ,, | 15 | | 1,087 | 19 | 0 |
| Andersen, Meyer & Co | British Thomson Houston Co | 19 | | 1,098 | 0 | 0 |
| Samuel, McGregor & Co | British Westinghouse Elect. & Mfg. Co | 18 | | 1,104 | 3 | 8 |
| Siemssen & Co. (The Lahmeyer Electrical Co. Ltd.) | Felten Guilleaume Lahmeyer Werke | 18 | | 1,204 | 12 | 0 |
| Brown, Boveri & Co. (direct) | Brown, Boveri & Co | 29 | | 1,208 | 19 | 3 |
| Von During, Wibel & Co. (Brown Boveri & Co.) | Brown, Boveri & Co | 29 | | 1,208 | 19 | 3 |
| Lancashire Dynamo & Motor Co., Ltd | Lancashire Dynamo & Motor Co | 11 & 21 | | 1,324 | 0 | 0 |
| John E. Hall | ,, | 11 & 21 | | 1,324 | 0 | 0 |
| Jardine, Matheson & Co | Crompton & Co | 15 | | 1,327 | 6 | 6 |
| Scott, Harding & Co | Lancashire Dynamo & Motor Co | 17 | | 1,410 | 16 | 6 |
| ,, | ,, | 17 | | 1,497 | 9 | 0 |
| Lancashire Dynamo & Motor Co., Ltd | ,, | 11 & 21 | | 1,510 | 0 | 0 |
| John E. Hall | ,, | 11 & 21 | | 1,510 | 0 | 0 |
| Scott, Harding & Co | ,, | 17 | | 1,588 | 8 | 6 |
| ,, | ,, | 17 | | 1,683 | 9 | 0 |
| Innis & Riddle | Langdon-Davies Motor Co | 16 | | 1,030 | 10 | 0 |
| ,, | E. Brook Ltd., (portion of contract only) | 12 | | 115 | 10 | 0 |

LUBRICATING OIL ANNUAL SUPPLY.—Contract awarded Vacuum Oil Co. at following prices:

| | *Tls.* | |
|---|---|---|
| Extra Hecla Cylinder Oil "B" | 1.44 | per Imp. gal. less 10% |
| Vax Cylinder Oil | 1.14 | " " |
| Vacme Polar Cylinder Oil | 0.85 | " " |
| Vacme M. Engine Oil | 0.86 | " " |
| No. 1 Crank Chamber Oil | 0.82 | " " |
| Vacuum Machine Oil | 0.52 | " " |
| Gear Grease | 0.10 | per lb. |

The following are authorized for acceptance:—

For the annual supply of timber.

1.—The China Import and Export Lumber Co., Ltd., Oregon Pine and Singapore Redwood at prices as follows:—

Oregon Pine planks, Tls. 39.50 to Tls. 40 per 1,000 sup. ft.

Oregon Pine logs, Tls. 40 to Tls. 45 per 1,000 sup. ft.

Oregon Pine Red, Tls. 60 per 1,000 sup. ft.

Singapore Redwood planks, Tl. 0.55 to Tls. 1.35 each.

2.—Messrs. Jardine, Matheson & Co., Ltd., Hardwood and Foochow Poles, at prices as follows:—

Japan planks 7′ 6″ by 1″, Tls. 2.34 each.

Malava planks, Tls. 89.55 per 1,000 sup. ft.

Malava logs, Tls. 79.60 per 1,000 sup. ft.

Selangan Batu planks, Tls. 84.58 per 1,000 sup. ft.

Selangan Batu logs, Tls. 74.63 per 1,000 sup. ft

Foochow Poles, dimensions and prices as per schedule, and other dimensions as required at various prices.

BIDS OPENED. CHIEF QUARTERMASTER, MANILA.—One Ocean-going Steamer 1,000 to 3,000 tons. Following bids submitted:

Messrs. Wise & Co., bidding for the Shanghai Dock & Engineering Co., of Shanghai, bid on five steamers of the P. & O. fleet as follows: The S. S. *Java*, gross tonnage 4093.14 knots, $60,000, S. S. *Ceylon*, gross tonnage 4094, 13 knots $60,000, S. S. *Japan*, 4319 gross tons, 14 knots, $60,000, S. S. *Manila*, 4210 gross tons, 13 knots, $60,000 and the S. S. *Oriental* of 5284 gross tonnage, 15 knots, $100,000. Mr. James F. Macleod bid on two steamers of the Hamburg-American fleet, the *Loongmoon*, 1971 tons gross measurement, 13 knots, $85,000, and the *Lyeemoon*, 1925 gross tons, 13 knots, $75,000. Messrs. Smith Bell & Co., Ltd., bid also on two steamers offering the *Sungkiang*, gross tons 1622, for $52,000, and the steamer *Taisang*, gross tons 1544, for $40,000. F. T. Figueras bid for the sale of the Fiume, gross tons 1386, $40,000, and Messrs. Hidalgo, Cuyugan & Co. offered the *Atlant s* of 1528 gross tons for $50,000. The steamer *Rigel* of 758 gross tons was offered by Messrs. Pujalte & Co. for $51,000, and Gutierres Hermanos bid the *Magallanes* of 1321 gross tons in for $95,000. Messrs. Germann & Co., Ltd. one 10 knot steamer $146,970, one 12 knot steamer $174,780. Delivery to be made at Manila or Tsingtau.

SIX SCOW LIGHTERS.—Two 50 feet in length; four 80 feet in length. The Hongkong & Whampoa Dock Co. bid $3192 each for the two 50 foot lighters and $6084 for each of the four 80 foot scows. Built according to specification of Oregon pine and delivery of first lighter to be made in six weeks and on each week following, or all to be delivered in 11 weeks.

Messrs. Simmie & Pierce $2225 and $4325 each, Oregon pine construction, and delivery of first scow in 30 days and one every 12 days thereafter.

Fred Wilson & Co., representing George Fenwick & Co. of Hongkong, bid $4890 and $7375 each, and agreed to deliver 2 lighters in three and one-half months, 2 in 4½ months and the balance in 6 months.

H. Thurber offered to build the small lighters for ₱4475 and the larger ones for ₱7375 Philippine currency, delivery of all to be made in 180 working days.

John Gordon bid $1950 and $4500 respectively. Gordon asked for payments as lighters were finished and refused to accept less than 50% of the work. He agreed to deliver half in 90 days and the other half in 180 days.

The Atlantic, Gulf & Pacific Company were the next lowest bidders to Allen. Their bid was $1590, U. S. currency, for the small scows and $3948 for the 80 foot lighters. Oregon pine was the material offered and the company agreed to make delivery of 2 scows in 60 days, 2 in 120 days and 2 in 180 days.

Arthur F. Allen, who was the lowest bidder for the work of constructing the scows, bids as follows: Small scows ₱3,500 each and ₱7,400 each for the larger ones. Oregon pine or native wood at the same price that Oregon pine can be bought in the market. Delivery to be made 2 in two months, 4 in three months and 6 in four months.

HARBOR BOATS.—Messrs. Castle Bros.-Wolf & Sons, representing the Taikoo Dockyard Co. of Hongkong, bid $67,117.50, or two boats for $132,750. This firm agrees to deliver one boat in nine months and two in ten. They also agree to deliver the boat at Manila under her own steam The Kawasaki Dockyard Co., of Kobe, agree to deliver one boat at Manila in 14 months time for 278,500 yen, and the Mitsu Bishi Dockyard & Engine Works of Nagasaki agreed to deliver the boat at Manila in nine months time for 169,000 yen. Messrs. Findlay & Co., representing the Hongkong, Whampoa Dock Co. of Hongkong, bid $73,837, U. S. currency, for one tug and two for $72,710 each, delivery to be made in 7 and 8 months respectively. The Kiangnan Dock Yards & Engine Works of Shanghai agreed to construct one steamer for $75,000 and two for $148,000, delivery in 8½ and 9½ months. Messrs. Germann & Co., Ltd., representing Tsingtau Werft of the Tsingtau Docks in China, agreed to furnish a 750 horse power harbor boat for $93,170 at Tsingtau, or $95,122 delivered at Manila. If two boats were furnished a reduction of $3,000 would be made. The delivery to be made in 9 months on the first and the second four months later. Wise & Co., bidding for the Shanghai Dock Co, bid $74,700 for one and $141,930 for two, delivery to be made at Manila in 8 months.

3,000 RAILWAY SLEEPERS.—Tayabas Saw Mill and Lumber Company ₱1.60 each, Pagatpat, complete delivery in 100 days; Tuason and Sampedro ₱3.24 each Ipil, Yacal or Dungon, complete delivery in 100 days; Derham Bros. $.985 each, Montol, complete delivery in 10 days.

ONE MILLION FEET OREGON PINE OR LAUAN.—On the native wood Derham Brothers bid ₱35.80 f. o. b. at Port Bonga; the Cadwallader, Gibson Lumber company, ₱45.90 ex mill dock and ₱47.90 delivered at quartermaster's dock, and the Insular Lumber company ₱50 ex ship and ₱52.50 ex yards.

The Oregon pine bids were: Findlay, Millar Lumber company, ₱40.60; California Lumber company, ₱40.64; and the Export and Import Lumber company, ₱41.30.

1,500 POUNDS STEEL.—Contract awarded Messrs. W. F. Stevenson & Co., Ltd., on a bid of that company on American steel, railroad bridge grade, one fourth inch $.0373 and $.0362 for 3-8 inch, all other sizes $.03356, U. S. currency.

The amount of the bid approximates $30,000, U. S. Currency.

BIDS OPENED, BUREAU OF SUPPLY, MANILA.—40,000 tons of coal. W. F. Stevenson & Co., Ltd., bidding on Australian West Wallsend, Manila ₱10.73, Iloilo ₱11.23, Cebu ₱11.23, Jolo ₱11.54, Tacloban ₱11.54, Romblon ₱11.54, Balabac ₱11.54, P. Princesa and Zamboanga ₱11.54. Macondray & Co. Inc. bidding on Newcastle Wallsend, Manila, ₱10.58, Iloilo and Cebu, ₱11.83, all other ports ₱12.32. Their

# FAR EASTERN RAILWAY NEWS

Japanese Railways.—The announcement is made that during the present year it is expected to complete a total of 192 miles of line which, in addition to the 6731 miles in operation at the end of 1909, will bring the mileage up to 6923. The program for 1911 represents 237 miles of construction. The following is the table of the construction for the present year:

| | Mileage | Date. |
|---|---|---|
| Hokkaido Line ........... | 31.09 | Sept. |
| Hokkaido Line ........... | 48.08 | " |
| Gwan-Etsu Line .......... | 10.56 | Oct. |
| Central East Line ........ | 7.53 | " |
| Central West Line ........ | 7.11 | " |
| Maizuru Line ............. | 26.07 | Sept. |
| Sanyin East .............. | 4.77 | Oct. |
| Sanying West Line ........ | 11.31 | May |
| Sanyin West Line ......... | 2.41 | " |
| Sanyin West Line ......... | 7.18 | Oct. |
| Toyama Line .............. | 14.67 | April |
| Uno Line ................. | 20.37 | May |
| Total ........... | 192.10 | |

And the program for the period commencing January 1st, 1911, is given by the *Financial and Economic Monthly* as follows:

| Lines | Running Mileage | Construction Expenses | |
|---|---|---|---|
| | mile | *yen* | *yen* |
| Hokuetsu .... | 15.69 | 2,218,197 | 139,860 |
| Kyushu ..... | 48.69 | 8,430,528 | 172,757 |
| Bo-So ....... | 46.43 | 6,442,916 | 138,438 |
| O-U ......... | 92.16 | 14,984,457 | 162,521 |
| Hokkaido Sorachi Coast | 36.68 | 5,040,860 | 136,754 |
| Kyushu ..... | 32.20 | 7,188,472 | 222,898 |

Japanese Railway Plant.—The program of the Railway Board includes the construction of a large plant for the manufacture of general railway supplies at Omori. The site will cover an area of about 60,000 square yards, and have three times the capacity of the plant at Shimbashi. The machinery from the latter will be transferred to the new plant and an addition of modern machinery will be added.

bid on Japanese Ochi was Manila ₱9.14, Iloilo and Cebu, ₱10.73, all other ports ₱12.74. Smith Bell & Co. bid on Australian Seaham as follows: Manila ₱10.94, Iloilo ₱12.035, Cebu ₱12.06, Jolo, Tacloban and Romblon ₱13.13, Balabac and P. Princesa ₱28.44, Zamboanga ₱14.93. Mitsui Bussan Kaisha bid on Japanese Tagawa, Manila ₱10.65, Iloilo ₱12.50, Cebu ₱12.10, Jolo ₱13.80, Tacloban and Romblon ₱12.70, Balabac, Puerto Princesa and Zamboanga ₱13.10. T. Figueras bid on Australian Pacific, Manila ₱10.45, Iloilo and Cebu, ₱11.15, all other ports ₱11.25. Ker & Co. bid on Mount Kemblar, Osborn, Mount Pleasant, Wallsend. Metropolitan and Coal Cliff as follows: Manila ₱10.06, Iloilo and Cebu ₱11.16, Jolo, Tacloban and Romblon ₱13.395. No bid on other ports. Messrs. Behn, Meyer & Co., Ltd., bid on Lauban coal as follows: Manila ₱8.83, Iloilo ₱9.53, Cebu ₱9.33, all other ports ₱9.63.

Proposals for Fire Hose.—Shanghai Municipality.—Bids opened, July 16.

2,000 ft. 2½ in. Double Jacket Cotton Para Rubber lined Fire Hose in 50 ft. Lengths, uncoupled.

2,025 ft. 2½ in. Flax Machine-made, Canvas, Unlined, Fire Hose in 75 ft. Lengths, coupled: couplings to be expansion ring pattern, gunmetal, V right hand threads, 5 threads per inch, 3¼ in. ext. dia. and to be provided with two lugs ¾ in. dia., ⅞ in. length.

Proposals for 10,000 Cubic Feet of Teak.—Bureau of Supply, Manila. Bids opened July 20. Dimensions must not be less than 14" square and 16′ long.

The Antung-Mukden Reconstruction.—It is expected that over fifty miles between Antung and Chihkwanshan will be completed and in operation by October this year. The broad gauge has been laid for 25 miles between Mukden Shihchiaotsu. The material is secured from the mountains for grading and brickyards are established along the right of way. The work on the tunnels, the most difficult part of the construction, is being pressed. There are 25 in all aggregating about 9,000 yards. Of this length about 8,000 yards, including the Taling tunnel, have been completed. The construction of the Antung-Mukden line, says a Japanese exchange, is to be completed by August 1911, and the Yalu bridge is also to be finished within next year. When Mukden and Fusan are thus linked, not only will the line become a highway for traffic between Japan and Russia, but a new way will be opened to Peking by connecting the line with the Peking Mukden road. By the Fusan-Mukden road, Mukden will be reached in 43 hours from Moji, against 60 *via* Dairen, where also a further delay may occur in making the connection between steamer and train. Moreover, it is only natural that people should prefer to travel by rail than by steamer.

International Through Traffic Agreement.—The South Manchurian Railway has been advised of the conclusion of the conference between the Russian and the Japanese representatives and has announced the result as follows: With regard to through freight the principles adopted were along the lines of the Berne convention with such modifications as conditions in Manchuria required. That the traffic should be organized by combining the prevailing tariffs of the South Manchuria and the Chinese Eastern Railway, and that special rates should be allowed only on timber, flour, spirits, cement, butter, and salt fish from the Chinese Eastern Railway and coal, cement, vegetables, fruit and fresh fish from the South Manchuria Railway.

The Tiehling-Hailungcheng Railway.—Preliminary surveys are being made by a Chinese engineer for this line which, when completed, will serve the region now tapped by the Sungari River and secure a large share of the trade that now goes by way of Kirin. The line will tap Kuanchieh and Menhkiang, situated on the upper reaches of the Sungari and Panshihhsien, Chaoyangchen, Liuhohsien, Taolu, and Utung, all situated on the Huifa and Itung Rivers.

Hongkong-Canton Railway.—There is every indication that the line to the Kowloon boundary will be completed by July 1st. The Chinese section will be greatly expedited by the facilities provided by the British section when completed for the carrying of materials, etc., for construction work from the Kowloon end. It is expected that the Chinese section will not be completed until about August 1911.

The Canton-Macao Railway.—The announcement is made from Peking that the Portuguese Minister has again opened the question of completing this line. It will be remembered that an attempt was made recently to secure permission to complete the line with Chinese and Portuguese capital. It is understood that the proposal is now meeting with favor.

The Yunnanfu Railway.—The *Avenir du Tonkin*, commenting on the disappointment of Haiphong in the small increase of traffic following the opening of this important road, declared that the high rates charged by the company are responsible.

Harbin-Hsui Hua-Hai Lun Railway.—Advices from Harbin are to the effect that the National Communication Bank and the Kwang Hsing Co. have expressed their willingness to finance the construction of a line of light railway to cost Tls. 5,000,000. The line will be 150 miles in length and serve to carry cereals to the interior of Mongolia as well as to tap the wealth of that region.

South Manchuria Railway Receipts.—Passenger receipts for April this year amounted to yen 337,277 and freight yen 753,678, a decrease of yen 126,900 compared with the returns for the corresponding term, 1909.

The Inter-Indo-Ceylon Railway.—This enterprise which is to place Ceylon in connection with India is to receive attention this year. An appropriation of £300,000 has been made, of which one-third will be spent this year. The sum of £100,000 will be expended in the completion of the Pampam Viaduct and the bridge joining the island of Rameswaram and Mandapam.

The Lokyang-Tungkwan Railway Finance.—A report from Peking is to the effect that Mr. Straight has arranged to take up the loan for Tls. 5,000,000 to finance this line. It will be remembered that recently arrangements were practically concluded with the Kungyi Bank for the latter to advance the sum needed. It has been announced that the latter's inability to raise the money is responsible for the negotiations towards an American loan.

New Locomotives for the Shanghai-Nanking Line.—According to the *N. C. Daily News*, the management of the Shanghai-Nanking Railway has placed an order for four express passenger tender locomotives of the 4-2-2 and 6 type with Messrs. Kerr, Stuart & Co., Ltd., of the California Works, Stoke-on-Trent, who established an office here in March last. The contract means a record in construction, as two of the engines have to be completed in forty-five days. But for a few minor details, these engines are identical with the famous single-driver locomotives of the Midland Railway, which are booked to do the journey between London and Nottingham at an average speed of 52.5 miles per hour, and whose actual running speed ranges from 52.8 to 55.68 miles per hour with a load of upwards of 200 tons. As there are no steep gradients on the Shanghai-Nanking Railway, such as exist on the Midland Railway, the engines now on order are expected to give even better results than those mentioned above. Messrs. Kerr, Stuart & Co. have received a similar order from the Chekiang Railway for engines of the 4-4-0 and 6 type.

Profits of Chinese Railways.—The net profits for the year 1909, according to the correspondent of the *Jiji Shimpo* at Peking, amounted to Tls. 6,400,000. The *Jiji* says that out of the ten Chinese railways two, namely, the Kyukiang and the Pinghsiang, show accounts which balance exactly, neither profit nor loss being in excess. Six of the roads show a net loss of 2,600,000 Taels; and two, namely, the Peking-Hankow and the Peking-Mukden, show a substantial profit. The figures work out as follows:—

| | Taels. |
|---|---|
| Peking-Mukden Gross Earnings... | 12,000,000 |
| Peking-Hankow Gross Earnings... | 9,600,000 |
| Total ........................ | 21,600,000 |
| Gross Expenditures on the above two lines ................... | 11,600,000 |
| Net profits on the above two lines ....................... | 9,000,000 |
| Losses on six roads ............. | 2,600,000 |
| Net profits over the whole system. | 6,400,000 |

Inspection of Railways.—According to the Peking correspondent of the *N. C. Daily News* the Yuch'uanpu was recently ordered

by decree to inspect the Fukien, Chaochou-Swatow, Sunning and Huichou-Chaochou railways; and the result, as reported by the Ministry, shows that altogether the proposed railway lines in the Fukien province amount to over 2,000 li, but the line from Changchou to Amoy, 90 li, is first to be built. The line has been completed for ten or twenty li, and construction work, such as embankments or bridge building, is proceeding for the rest of the line. The line is level and straight and the construction is substantial. The subscribed capital is to be Tls. 1,370,000 and funds are required. With regard to the Chaochou-Swatow Railway it is reported that the length is eighty-five li, and that the line has been completed. The stations and cars are satisfactory, but the locomotives are not of the best pattern. The paid-up capital was $3,024,000 but $3,123,000 has been expended. After deducting cost of maintenance the receipts would pay about one per cent interest. The Sunning railway is to run from the Sunning city to the Kungyi Port, a length of 122 li, and it was completed last year. The paid-up capital was $2,740,000 and the actual capital expended was $2,500,000, leaving a surplus. The dividend is 2 or 3 per cent. The Chaochou-Huichoufu line was abandoned owing to the share holders breaking up.

---

THE CHEFOO-WEIHSIEN RAILWAY.—According to the latest advices, the required deposit of $3,000,000 has not been made up according to the instructions of the Governor of Shantung and the promises of early construction on this proposed line are far from bright. This condition was imposed by direction of the Board of Communications when the request for permission to inaugurate this line was made. It is understood that only $1,700,000 are available. An endeavor is being made to secure the necessary subscription to make up the deficit.

---

HULAN-TUNGKENG RAILWAY.—Viceroy Hsi, according to advice from Mukden, is preparing a memorial to the Throne to secure sanction for the construction of a light railway between Hulun and Tunkeng, a distance of 117 miles, at an estimated cost of one million yen.

---

PHILIPPINE RAILWAY CONSTRUCTION.—The line is now within a mile of Dao, Panay, which brings the construction from either end of the line within six miles of each other. The equipment for driving piles for the bridge over the Dao River was taken over the track.

The company has inaugurated an automobile service over fifteen kilometers of line connecting Janiuay and Pototan, the latter being a station on the Panay line and situated in a thickly populated district. The fare is forty centavos over the four zones in which the extension is divided. Through rates to any point along the line for passengers and freight have been issued.

---

THE KIRIN-CHANCHUN RAILWAY CONSTRUCTION.—Recent reports are to the effect that the rails for this line will be supplied by the Hanyang Iron and Steel Works. The work of construction is now progressing. Japanese and Korean laborers are employed.

---

THE HUNAN RAILWAY AGITATION.—An indication of the attitude of the Honan Chinese towards foreign railway loans may be taken from the following dispatch from Peking:

On the 21st May Li, a representative from Hunan to get sanction for the rejection of the foreign loan for railways, seeing that a certain Peking newspaper published a report that Hunanese in Canton have approved of having a foreign loan for Hunan railways, felt indignant and wept and cut one of his fingers and wrote with blood "Railways in Hunan should not borrow loans and I hope the Grand Secretary (Hsu Shihchang) will maintain that view" in fifteen Chinese characters and presented the writing to Hsu Shih-chang, the President of the Board of Communications. President Hsu was much affected.

---

PEKING RAILWAY NEWS.—Application was made to H. E. Hsi Lia Liang, Viceroy of Manchuria, by the Russian Consul at Mukden proposing the construction of a line connecting Harbin and Hunchun, but the Viceroy declined. Later the Russian authorities took it up with the Waiwupu and the latter sustained the Viceroy.

The report is made by the native press that a loan has been arranged with American capitalists for Tls. 18,000,000 and with British capitalists for Tls. 10,000,000, the funds to be used in the construction of the Kaifengfu-Changchow Railway.

---

THE KINCHOU-AIGUN RAILWAY.—In a letter to Messrs. Pauling & Co., Director Okamatsu of the South Manchuria Railway Company denies that Japan is opposed to the construction of this line and states that his country is anxious to participate in the financing and construction of the road with a share in the supply of materials. He writes that Japan would want the right to build a branch to connect the line with the South Manchuria. Mr. Wilfred Straight recently returned to New York via Europe to meet his principals in connection with this line. It is believed that his purpose is to interview Russian financiers with a view to securing their co-operation.

---

THE CANTON-HANKOW AND HANKOW SZECHUEN RAILWAY LOAN.—Advices from London on May 28th were to the effect that an agreement had been reached between the different nationals interested in this loan, and the impression was made that this meant the conclusion of the negotiations with the Chinese Government. The preliminary negotiations between the capitalists and the Chinese Government had been postponed for the reason that the German, French, British, and Americans could not agree. Now that they have agreed as to the division of the loan, the preliminary negotiations will be renewed and unless the provincial anti-loan influences seriously interfere, the conclusion of the loan may be arrived at within the year.

---

THE SHANGHAI-NANKING EXPRESS SERVICE.—This company inaugurated a fast service on its line on June 1st most successfully by an excursion to Soochow and return. A speed of 46 miles an hour was maintained on the outward trip and the return developed a speed of 60 miles, the maximum being 63 miles an hour at certain points. The track was in excellent condition. The locomotive used on this trip was a four wheeled coupled express engine manufactured by Messrs. Robert Stevenson & Co. of Darlington. The weight of the leading bogie wheels is 9.3 tons, trailing bogie wheels 9.65 tons, driving wheels 18.95 tons, trailing bogie 18.15 tons. Tender leading wheels 13.55 tons, intermediate wheels 13.55 tons, trailer wheels, 14.3 tons. Bogie empty 17.9 tons, engine 51.25 tons, tender 18.5 tons. Total weight of engine and tender empty 69.75 tons; bogie in working order 19.55 tons; engine in working order 56.65 tons; tender in working order 41.7 tons; engine and tender in working order 98.35 tons; tractive force at 75 per cent cut off 17.260 pounds; length wheel base of engine and tender 48 feet 9 inches; total length over the couplings 67.33-4; diameter of cylinders 18.26; diameter of driving wheels 6 feet 7 inches; diameter of bogie wheels 3 feet 6 inches; heating surface tubes 1,467.39 square feet. Fire box 162.61; Total heating surface 1,630 square feet; grate surface having an area of 28 square feet.

The first class coaches are of the most modern construction, electrically lighted and kept cool by a comprehensive system of fans. This express will have second and third class coaches, the former with a capacity of 72 passengers and the latter 130. The service was inaugurated June 3rd. Special arrangements were made for handling the special traffic to the Nanking Exposition. The following is the official notice published by Traffic Manager A. W. U. Pope:

"On and from the 3rd June, 1910, the present Time Table will be entirely revised.

"The Fast Train will leave Shanghai at 7:45 a.m. instead of 12:45 p.m. and the Slow Train at 8:10 a.m. instead of 8:00 a.m., the former stopping at the principal stations only, and the latter at all stations. No first class car will be attached to the Slow Train.

"There will also be an additional Limited Express Train leaving Shanghai at 1:05 p.m. and Nanking at 1:20 p.m. stopping at Soochow, Wusih, Changchow, and Chinkiang only. This train will hold only 48 1st class, 72 2nd class, and 450 3rd class passengers for the stopping stations, and when that number is accommodated the booking will stop. Seating will be provided on priority of application or booking. No pass holders will be admitted to this train, and no special cars will be attached for the public.

"A night train will run on Saturdays leaving Shanghai for Nanking at 10 p.m., returning from Nanking at 10 p.m., on Sunday.

"On Saturdays and Sundays, the ocal train which leaves Shanghai for Soochow at 6:10 p.m. and on Sundays and Mondays the local train which leaves Soochow for Shanghai at 7:30 a.m. will be cancelled.

"Important alterations will also be made in the running of other Main Line and Woosung Line Trains.

"New Time Tables may be had on application to any Station Master of any Station on the Railway, or from the General Offices, Shanghai Station on and from the 1st proximo."

# PHILIPPINE MINING NEWS

QUICKSILVER IN BENGUET.—Warren D. Smith, Chief Division of Mines, announces the discovery by Mr. Hulbert of the Major Mining Company and Mr. Smith of a sample containing cinnabar, mercury sulphide, on Batwaan Creek, Benguet. It was found in the heavy concentrate while panning for gold. Only small quantities have been realized, but it is not improbable that it might be found in commercial quantities. The same material has been located near the Kios trail. The following information has been published in regard to this mineral by the Division:

"To assist prospectors who may not be familiar with the characters of cinnabar, the following information is furnished. It is a sulphide of mercury, Hg. S. and, when pure, contains 86.2% of mercury. It is very heavy its specific gravity being 8 to 8.2, it occurs in bright vermillion to brownish-red masses of granular texture; more rarely as small transparent rhombohedral crystals (its form in Benguet) or a bright scarlet powder, or an earthy red mass.

"Easy tests:—Heat the powder in a closed tube when a sublimate of mercury, or a 'mirror' will form in the cooler part of the tube, or if cinnabar powder is moistened with hydrochloric acid and rubbed on a bright copper, the coin will be coated with mercury

THE PARACALE EXTENSION COMPANY.—Messrs. M. A. Clarke and Nels Peterson, who are interested in the promotion of the Paracale Extension, are expected to return to Manila from Shanghai at the end of the month after which Mr. Peterson will proceed to New Zealand to purchase the first of two dredges to be installed during the next year on this property. It is understood that sufficient capital to instal the first dredge has been raised among Shanghai capitalists. The property is considered one of the most valuable in Paracale.

---

THE BENGUET CONSOLIDATED MINING COMPANY.—The output for the month of May was 100 ounces making in all to date about ₱20,000 worth of gold taken out since the disastrous flood of October. The company is preparing to restore the cyanide plant and increase the present capacity of the batteries.

---

THE STANLEY COMPANY.—The returns from the Stanley dredge in Paracale for May amounted to 108 ounces. Paracale is now in the middle of the dry season and water is scarce for dredging purposes. The Stanley is slowly approaching the richest sections of their property and large returns are expected.

RECONNAISSANCE OF PARACALE.—Dr. Adams of the Division of Mines made a reconnaissance of the district last month. He also visited the new Nalisvetan and Guiniangan fields.

SURIGAO PLACER GOLD FIELDS.—A description of these fields appears in the *Philippine Free Press* and indicates that they give promise of large returns for investment.

"At present prospecting and development work is confined chiefly to the district around and to the north of Placer, about 25 kilometers south-east of the town of Surigao. A group of five or six Americans are testing the ground in that neighborhood and overtures have already been made by both New Zealand and American capital for an option on their claims.

"The ground in question is situated in and about the three creeks: Taganaan, Causuran, and Biga, only the first of which is shown on the map, the other two creeks lying just south of it. It is from the ground at the head of those creeks, which are described as tributaries of the Surigao river, that the rich nuggets kept as heirlooms in Spanish and Filipino families of Surigao were found. In his report Mr. Goodman, formerly of the division of mines, said some of these nuggets were as large as twenty dollar gold pieces.

"Besides the work being done near Placer reports have been received from time to time of some Americans working on the Agusan river, shown at the bottom of the map. During one of his trips south about a year ago Dr. Barrows, then director of education, said he found a lone American washing gold near the mouth of the Agusan and finding paying color in every pan. He had some natives working for him and said he was making a good living by even that primitive method."

THE MASBATE FIELD.—The work of development and investigation on the options held by the Philippine Exploration Company continues, and it is expected that the final report will be made several months before the options expire. The property is in splendid condition and values are practically available at the present time as a result of the large measure of well directed development work carried on by the owners during the last three years Mr. Bridgeman, mining expert, representing the Shanghai capitalists interested, is in the Philippines looking after their interests in these options.

THE SOMOSA QUARTZ PROPERTY IN PARACALE.—It is understood that New Zealand capitalists have secured an option on a number of quartz claims owned by Señor Somosa under an agreement to do a large share of development work and operate a quartz mill on a percentage basis. Several assays showing high values have been made, but up to the present time no definite average may be announced as the development of the property has not been sufficiently extensive to warrant a final report. The indications are that they offer a good prospect and warrant the expenditure of sufficient money for uncovering the hidden wealth.

HYDRAULIC MINING IN NUEVA ECIJA.—A number of mining men interested in placer on the Pecco River are considering the advisability of installing a plant to develop some claims that show on reconnaissance rich deposits. The investigation of the property has not up to this time warranted the expenditure of large capital. The placer properties in this section have shown values from 60 centavos to ₱1 a cubic yard where the testing has been thorough, but very little work has been done on the Pecco section.

GENERAL RESUME.—There are many reports of rich deposits being received in Manila from different parts of the islands, and judging from results where development has been carried out under competent supervision, many of these prospects will prove far from disappointing. However, few properties in the islands may claim to the title other than "prospect" and a prospect remains until the values and volume of paying deposits are known. This can only be secured by well directed effort and careful expenditure of money.

# FAR EASTERN ENGINEERING, CONSTRUCTION, FINANCIAL AND COMMERCIAL NEWS

## ELECTRIC RAILWAYS, LIGHT, POWER, TELEGRAPHS, TELEPHONES, AIRSHIPS, ETC.

UNDERGROUND WIRES IN TOKYO.—Official permission is extended to the Tokyo Electric Railway to supply lighting throughout the city by means of underground wires. It is estimated by the company that while the initial expense will be heavy, the annual maintenance will be greatly reduced. It is expected that there will be keen competition between the railway and the electric light company with a corresponding reduction in cost of service.

WIRELESS ON PRATAS ISLAND.—The Viceroy of Canton has announced that it is his purpose to install a plant on this island at an expenditure of $100,000.

ELECTRIC FRANCHISE FOR ZAMBOANGA.—The Zamboanga Water Electric & Power Company has made an application for a franchise to the Philippine Legislature. The matter is being favorably considered.

PHILIPPINE WIRELESS COMMITTEE APPOINTED.—The following members were appointed by Executive Order of President Taft: Commissioner Elliott, Secretary of Commerce and Police, Colonel P. Scriven, U. S. Army, and Commander C. M. Knepper, U. S. Navy. They are to consider the substitution of a complete wireless service throughout the archipelago for the present cable service.

In this connection it might be said that it has been decided to instal wireless plants on Mount Mirador, Benguet, and Santo Domingo de Basco, Batanes, for meteorological purposes under the direction of the Philippine Weather Bureau.

SINGAPORE ELECTRIC TRAMWAYS.—At the last annual meeting the chairman in his review of the year's operations expressed optimistic views of the company's future based on the result for 1909. He stated that the system had been benefited by the opening of the Singapore Bridge.

The Singapore receipts for the year under consideration were £64,234 4s. 2d., as against £60,020 7s. 7d. for 1908, showing an increase in the gross receipts of £4,213 16s. 7d. The ration of working expenses to those of receipts fell from 59.76 per cent. in 1908, to 52.63 per cent. in 1909, and the expenses per car mile fell from 3.99d. to 3.56d. The total running expenses were £613 less than in 1908, with an increased car mileage of 193,354 miles. The system carried in 1909 13,806 more passengers than in the previous year, but the passengers carried per car mile dropped from 6.54 to 5.96. The passengers per car mile show an increase, although the 1908 figure of 6.54 has not yet been reached. For the last three months the average number of passengers per car mile was 6.27, as against 6.17 for the first sixteen weeks in this year.

SHANGHAI TELEPHONE EXCHANGE.—The installation of the exchange in the new concrete building was completed last month. The testing apparatus, dynamos, accumulators, etc., are installed on the lower floor and the offices, switch boards and operators on the upper floor.

The power plant consists of a duplicate set of motors and dynamos for supply current for the telephones and lamp signals and also for ringing the subscribers' bells. Also a set of eleven accumulators, each with a capacity of 2160 amp hours at present, but which can be increased to 4000 amp hours by the addition of extra plates. The switchboard as completed consists of 17 sections equipped for 5600 subscribers' lines but with an ultimate capacity in the frame works for 10,000 lines. The total staff required to control and operate it including foreigners and Chinese is 130, the originating calls averaging some 35,000 per day. A special feature in this Exchange has been the adoption of enamel insulation on all wires used on the work for the purpose of securing freedom from cross talk owing to contacts from low insulation during the damp season and, although it has never been used for this purpose before in any Telephone Exchange either in Europe or in the United States, the results so far seem to justify the slight increase in cost. The length of wire used in the construction of the Exchange amounts to some 1,400 miles and the number of soldered joints and points of contact all of which must be electrically and mechanically perfect, amount to some 900,000. The contract was carried out by Messrs. Scott, Harding & Co., for their principals, the British Insulated and Helsby Cables, Ltd., whose works are at Prescott, Helsby and Liverpool. The first shipment was received September last. Mr. F. R. Baldock was in charge of the installation.

PACIFIC MAIL WIRELESS.—This company has directed the installation of wireless plants on the China, Siberia, Mongolia, Asia and Manchuria.

CHINESE NAVAL TELEGRAPH INSTALLATIONS.—Prince Tsai Hsun, Commissioner of the Navy, has directed that telegraph lines be installed between Ninghai and Sihuwan. The latter port will be the Chekiang naval station for the fleet.

TOKYO ELECTRIC LIGHT EXPANSION.—This company proposes to utilize its increase of yen 32,000,000 in capital for the carrying out of its second system of hydro-generation of electric current. This means the harnessing of the Katsura River from Tonegama to Hashijiri, a concession having been secured in combination with the Tokyo Electric Power Company. The water has a fall of 375 feet and will develop a power of 35,000 kilowatts.

OSAKA ELECTRIC ENTERPRISE.—There are four systems of electric lines in this district, none of which have made a very encouraging showing. The Kobe system cost yen 750,000 a mile and pays a dividend of 5%; the Hyogo cost yen 330,000 per mile and pays less than one percent; the Keihan cost yen 280,000 a mile and pays from 4 to 5% and the Kimen which cost yen 190,000 a mile pays 6%.

TIENTSIN AVIATOR COMPANY.—A company has been promoted by Messrs. Galluser, Bochin, Bruschweiler, Chevallaz and Runacher of Tientsin forthe purpose of introducing the Bleriot monoplane in China. The first machine is expected by the end of the month from Paris.

EASTERN TELEGRAPH COMPANY.—The report of the directors for the year ended December 31st, 1909, recommends after the usual contribution is made to the general reserve, the payments of interest, of dividend of 3.5% preference stock and three interim dividends of

Many discouraging results have followed the early installation of mills in mining districts before sufficient ore was made available to keep it engaged or the property had been uncovered to the extent necessary to measure the volume and values and to make the proper selection of a site for the plant. It may be said that the Philippine mineral districts have now passed that juvenile stage where dreams are liable to cause heartaches in their passing. The development of prospects is now being carried on without any dream attachments and as might be expected with much more satisfactory results and fewer disappointments.

£1 5s. per cent each on ordinary stock to September 30, 1909, that the balance be made available for the payment of a final dividend of £1 5s. per cent. and a bonus of £2 per cent. making a total of 7% on the ordinary stock for the year.

THE EASTERN EXTENSION AUSTRALIA AND CHINA TELEGRAPH COMPANY.—The directors of the Eastern Extension Australiasa and China Telegraph Company, in their report for the half year ended Dec. 31 last, state that the gross receipts amounted to £315,034, against £306,889 for the corresponding half-year of 1908. The working expenses, including £17,997 for maintenance of cables, totalled £143,674, against £151,507 for the corresponding period of 1908, leaving a balance of £171,360. From this is deducted £3,841 for income-tax payable in England, and £15,048 for interest on debenture stock, leaving, as the net profit for the half-year, £152,471. After adding $59,844 brought forward from the previous half-year, there is an available balance of £211,315. One quarterly interim dividend of 1¼ per cent. has been paid for the half-year, and it is now proposed to distribute another of like amount on May 11, making, with the interim dividends paid or the first half-year, a total dividend of 5 per cent. It is also proposed to pay a bonus of 4s. per share, or 2 per cent., making a total distribution of 7 per cent. for the year 1909. The sum of £50,000 has been transferred to the general reserve fund, and the balance of £26,315 carried forward.

## PUBLIC WORKS, DOCKS, WHARVES, BUILDINGS, ETC.

HANGYANG IRON WORKS' WHARVES AT SHANGHAI.—This company has been selecting a site and advertised for proposals to construct wharves for the handling of pig iron for exshipment.

SANITARIUM AT SIBUL SPRINGS.—The Philippine Government has appropriated the sum of ₱50,000 in addition to a former appropriation of ₱50,000 for the purpose of constructing the necessary buildings and making such improvements as are necessary to the establishment of a modern sanitarium. A resident physician will be appointed. The improvements will include the opening and construction of streets, the straightening out of the esteros, the construction of the central park and a pavilion at the entrance to the bathing establishment.

HARBOR FOR TOKYO.—With the proposal to construct a canal between Yokohama and Tokyo comes the more sanguine suggestion from the Tokyo Yomiuri urging the city of Tokyo to undertake the construction of a large harbor for Tokyo irrespective of the probability of the canal project being carried out. That journal suggests that with the opening of the Panama canal the increased trade would warrant the outlay which it estimates would be approximately yen 38,700,000.

TO REBUILD ZOJOJI TEMPLE.—This landmark in Shiba Park, Tokyo, which was recently burned, will be reconstructed at an outlay of yen 1,000,000.

THE EMPRESS DOWAGER'S PALACE.—The Empress Dowager recently commanded that a palace costing Tls. 6,000,000 be built for her use, but Duke Tsai Tse has advised against the expenditure for economic reasons.

CHEFOO HARBOR IMPROVEMENTS.—The plan adopted by the Chinese and foreign residents of Chefoo for the improvement of the harbor is now being considered at Peking. The main feature of the scheme is the construction of a sea-wall at an estimated cost of Tls. 1,500,000 to be repaid by wharfage dues and a five per cent. duty on domestic and foreign imports and exports.

THE TOKYO SEWAGE SYSTEM.—The scheme authorized recently by the city council will cost yen 33,660,000, half of which will be conributed by the Imperial Government. Of this amount yen 5,800,000 will be spent during the first five years beginning 1911 for the extension in the Asakusa, Shitaya and Kanda districts. The loan will be redeemed by a tax for street improvement and a sewage tax.

OPENING OF PORT ARTHUR HARBOR.—With the opening of Port Arthur to foreign trade it is stated that only the western portion will be made available. It is proposed to cut a waterway across the Tiger's Tail and to dredge an area of 300 acres to a depth of from 24 to 30 feet. Besides this, commodious wharves are to be built with railway connections. The eastern part of the harbor will not be opened for commercial purposes. The cost of these improvements is estimated at about yen 50,000,000 and will be borne by the Government and the South Manchuria Railway. The work will extend over a period of seven years.

THE TONGKU DOCKYARDS.—The Viceroy of Chihli recently inspected the newly completed Government Dockyards and reported favorably on the plants.

THE PEKING UNIVERSITY.—The Government has decided to expend Tls. 2,000,000 instead of Tls. 4,000,000 as was first reported in the construction of this important university and of this sum Tls. 500,000 will be made available annually. A Japanese engineer has been engaged.

FRENCH INDO-CHINA PUBLIC WORKS.—The proposal has been made by the *Temps* that the military contribution of francs 10,000,000 from the colony should be cut down one third and thus enable the colony to float a loan of francs 100,000,000, out of which Francs 45,000,000 could be utilized for irrigation works and the balance for the construction of branch lines of railways to afford better means of communication for isolated districts in the interior.

CEBU WATER SUPPLY.—The Philippine Legislature has authorized the issue by the Cebu municipality of ₱250,000 of public works bonds to assist in the installation of a gravity water supply to cost ₱500,000 when completed. The insular Government will lend ₱150,000 and the Cebu Municipality and the Province of Cebu will furnish ₱50,000 each to make up the deficiency. The water will be secured in a gorge about six miles from the city that forms a natural reservoir. The capacity of the proposed reservoir will be 400,000,000 gallons and the annual consumption of city and army post is estimated to be 700,000,000 annually. The minimum annual revenue is estimated at ₱75,000. The recent loss of over ₱8,000,000 by fire due to lack of water for fire protection was largely responsible for the agitation that resulted in having the scheme approved.

THE AGUS RIVER BRIDGE.—The construction of a 104 foot Pratt truss span bridge mounted on concrete abutments over the Agus River between Marahui and Dansalan, Moro Province, is under way. The river has a swift current with rock bottom so that the truss has to be floated into position on account of the impossibility of driving piles for false work.

CHINCHOU HARBOR SCHEME.—It is reported from Peking that the government favors the construction of a harbor at Chinchou at a cost of Tls. 7,000,000 and to accept an offer made by American capitalists to furnish the required funds. This port will be the terminus of the proposed Chinchou-Aigun line and will be the only Chinese ice free port serving as an outlet for Manchuria.

THE HUANGPU CONSERVANCY.—There is some discussion over the future of the conservancy works as to whether the original plans will be carried out or that the maintenance of Astraea Channel be considered sufficient to meet the requirements of the shipping community. It would appear that Conservancy Board has indicated that it deems all but the provision for maintenance to have been completed by the recent notice given M. de Rijke of the termination of his contract on November 30 of this year. The board announced that this action was necessary on account of shortage of funds. A protest has been filed by the Shanghai Branch of the China Association against the abandonment of the scheme in any part.

Commenting on the situation, the *N. C. Daily News*, says;

"The position is complicated owing to the omission to determine whether the sum, originally agreed upon by the Chinese and Foreign Governments, of Tls. 9,320,000, spread over twenty years, was sufficient for the purpose that it was intended to serve. If the Conservancy Board finds that there is little chance of its receiving the money necessary to complete M. de Rijke's whole scheme and that the community must be satisfied with the opening and maintenance of the Astraea Channel, then it is well advised to reduce its expenditure as soon as possible to the minimum point compatible with the adequate supervision of Astraea Channel. Clearly this is not the work for M. de Rijke to undertake, as it can be done by a junior engineer, and the Board would not insult him by asking him to stay for such a purpose. But if some arrangement can be arrived at by which provision is to be made for the completion of the whole conservancy scheme—including the Normal Lines, the rounding-off of Pheasant and Pootung Points—it will always be possible, we hope, to retain M. de Rijke's services for the community.

## SHIPBUILDING, GENERAL MARINE AND FISHERIES

BIG JAPANESE DREDGER.—The Japanese Government has placed an order with the Uraga Dock Company for the construction of a dredge of 1,200 tons displacement, to be used in the Shimonoseki Straits, at a cost of yen 340,000. It will have a capacity of 800 tons an hour and work to a depth of 40 feet.

THE NIPPON YUSEN KAISHA.—The net profit for the half year ended March 31st amounted to yen 1,703,500 after deducting yen 935,025 for depreciation, yen 462,017 for insurance and yen 603,853 for the structural repair fund. Including the balance from former term there were yen 2,103,206 available for distribution, out of which the directors proposed that yen 85,124 be added to the Reserve Fund, raising it to Yen 2,868,456; and that Yen 59,465 be allowed as Directors' and Auditors' fees. From the remainder the Directors recommend a Dividend at the rate of Ten per cent. per annum, which will absorb Yen 1,100,000.

The balance, Yen 858,616, will be carried forward to the next account.

BIG SHIPPING COMBINE.—The Royal Mail Steam Packet Company has purchased the whole of the share capital of the Pacific Steam Navigation Company and have thus secured control of an additional fleet of 44 vessels aggregating a tonnage of 182,930 tons approximately. The fleet of the Royal Mail Packet line comprised 48 steamers with a tonnage of 205,500 approximately.

SNAGGING CRAFT FOR PERAK WATERS.—The *Pinang Gazette* announces the launching of a vessel from the Eastern Engineering Company's works at Weld Quay, which is to be used in removing snags from the rivers of Perak. She is 40 feet long, 15 foot beam and 5 ft. 9 in. deep. It is fitted with heavy derricks, shear legs, winches, etc., with a capacity to raise 20 tons.

P. & O. DIVIDEND.—The directors of this company announce a dividend of 5% on preferred and 7% per cent interim on deferred for the half year ended March 31st, 1910.

KOREA'S FISHING INDUSTRY.—The Asahi Shimbun states that there are 3,898 Japanese fishing boats operating in Korean waters manned by 16,644 fishermen and the output of fish amounts to a gross value of yen 3,760,000,

while the Koreans have 12,411 boats manned by 68,520 men with a total catch to the value of 3,139,000.

New Type of Turbine.—Chief Engineer Kubota of the *Chefoo Maru* has designed a new type of turbine engine which is reported to have been tried out successfully on his vessel. A launch of the South Manchuria Railway is being equipped with this Japanese invention. Mr. Kubota has been working on this improvement for the last four years.

Russian Steamers Race.—"A race between the Russian East Asiatic Co.'s S. S. *Sishan* and Russian Volunteer Fleet S. S. *Kostroma* has just taken place to secure the first shipment of Congou Tea for the Siberian Railway," says the *Hankow News*. "Both vessels left Vladivostock on the 26th May, the Volunteer steamer at 4 p. m. and East Asiatic vessel at 5, arriving in Hankow on 3rd inst., the S. S. *Sishan* at 2 a. m., 7½ hours ahead of the competing vessel."

The Siam Steam Packet Company.—This company has increased its capital stock from Ticals 150,000 to Ticals 240,000.

Hongkong Shipping.—"Last year 527,280 vessels of 34,380,845 tons entered and cleared at Hongkong" says the *Hongkong, Post.* "Although a decrease on the previous year of 4,832 vessels, the tonnage shows an increase of 215,604 tons. Of this total 43,794 vessels of 22,415,125 tons were engaged in foreign trade, the percentage of British ocean-going vessels being 9.3 in number and 34.5 in tonnage, as against 9.8 and 35.1 respectively for foreign ocean-goers. The figures are truly amazing, and show the magnitude of Hongkong's importance as a world port. In the past twenty years the average tonnage of ocean vessels visiting Hongkong has risen from 1,182 tons to 2,390 tons, in other words the average has doubled itself. The loss of the Powan and Yingking, the withdrawal of the Hoi Sang and Kwang Fat and the laying up for a period of the Tak Hing, adversely affected the river traffic to the extent of 585,728 tons."

The Salvage Steamer Protector.—This vessel which recently stood by to assist in the refloating of the American Drydock Dewey gave an exhibition in Manila Bay last month. The vessel is owned by the M. Z. Svitzers Salvage Enterprise of Copenhagen and was built in 1905. She is of 542 tons gross and equipped with triple expansion engines of 1150 h. p. with a speed of 13 knots. Her powerful centrifugal pumps have a capacity of 6,000 tons of water an hour. Besides this she is equipped with the most modern and powerful salvage gear designed for work in the tropics.

Rapid Transit of Silk.—The Steamship *Minnesota* sailed from Yokohama on the afternoon of May 22nd and arrived in Seattle on the morning of June 3rd, making the voyage in 11 days and 14 hours. This is the record for sailing. The s. s. *Tambo Maru* of the Nippon Yusen Kaisha delivered a similar cargo at Seattle in 15 days and 6 hours and it was carried by rail over the Great Northern Railway connections to New York in 4 days, 18 hours and 15 minutes from Seattle. This is the record by rail.

New Japanese Destroyer.—The keel of the destroyer Yamakatze was laid at the Mitsu Bishi Dockyards & Engineering Works last month. This vessel is to have a displacement of 1,150 tons, a speed of 33 knots, and 21,000 horse power. In every point she is second to none but the *Swift* of Great Britain which holds the first rank among the destroyers of the world. She is to adopt the turbine system and to be fitted with 2 three-inch guns and 2 torpedo tubes.

The *Yamakaze* is to be built according to practical lessons gained in actual warfare. She will be launched at the end of this year or early next year and will be placed in commission in May next year. When she is ready for sea, she will form a flotilla with the *Sazanami*, *Kagero* and six others.

## MINES, MINERALS AND THE METAL TRADE, MACHINERY, ETC.

F. M. S. Tin Returns.—The total output for April aggregated 11,262 piculs for the month of April. The total exports for the first four months of this year amounted to 239,189.43 piculs a falling off of 6,999 piculs compared with the corresponding term last year. The values, however, show an increase for the same period of $1,740,344 compared with 1909, and the increase in duty is represented by $249,893.

Large American Order for Eastern Petrol.—The *Free Press* of Singapore announces that the Shell Transport and Trading Company has booked an order for 10,000,000 gallons of petrol from the United States and at a 25% advance on the ruling prices in Great Britain. The demand for gasoline for motoring in the United States is believed to have created a shortage in the market.

The Pensihu Colliery.—The organization of this company by Japanese and Chinese capitalists is reported effected. The capital is $2,000,000 Peiyang silver, of which each nationality will subscribe an equal share. The sum of $350,000 will be disbursed at once and the balance paid in instalments. It is reported that the Viceroy of Manchuria has purchased the interests of the Okura company in the colliery by means of a loan from the Yokohama Specie Bank for Tls. 150,000. The Chinese Government is to receive a royalty of 25% of the net profits.

The British Borneo and Burma Petroleum Syndicate, Ltd.—This company, which was recently organized as the result of the increase in capital of the British-Borneo Petroleum Syndicate Ltd. to £100,000 and a vote to change the name of the latter at the recent extraordinary meeting of the shareholders of London, is perhaps the most promising of oil ventures in the East. It controls 440 square miles of territory in British North Borneo, of which 160 miles are oil bearing. In Burma the company controls 10 blocks of one square mile each with the right to take six more blocks, all in the oil bearing district where the Burma Oil Company is operating. The British North Borneo Oil lands are situated six miles from Labuan where a coaling station is located and where an oil storage will be installed. Extensive boring operations are under way and the samples taken from this area show 30 per cent. petrol, 36% of high grade illuminating oil, 17% of spindle oil and 15% of extremely flash-point oil suitable for the manufacture of superior lubricants. The company expects to supply oil burners in Far Eastern waters with its second grade product. The lease of these lands run for 999 years and under the most favorable conditions.

Raub Gold Mine.—The returns for the four weeks ended May 21st amounted to 1,150 from the Bukit Koman and 95 ounces from the Bukit Malacca.

Japanese Coal to Alaska.—The Alaskan Northern Railway have announced that it has purchased 500 tons of Japanese coal for use as fuel during the summer months.

The Rawang Coal Prospect.—The following notice appears in the form of an advertisement in the Government *Gazette*:

"It is hereby notified that, a seam of coal having been discovered near the 26th mile on the Rawang and Kuala Selangor Road, the Government is prepared to consider applications from individuals or syndicates for exploiting and working the same. The area available for alienation lies within a radius of 3 miles from the existing bore."

Railway Steel for the Chinese Section, Hongkong-Canton.—Several cargoes of steel rails from the Hangyang Iron Works have been discharged at the railway wharf at Blackhead's Point to be transported from the Kowloon end to the point of construction. One cargo included 1,000 tons of steel.

Shangtung Gold Mines.—The Governor of Shangtung has petitioned the Peking government to take steps to develop the deposits of gold in the mountains of Lang and Hsien. A survey has been ordered. Sometime ago the British Minister asked that these mountains be included in the jurisdiction of Wei-Hai-Wei, but this concession was not made. Recently many foreigners have asked for concessions in that region.

Yunnan Tin Mines.—A project is on foot to develop the old tin mines of Koju in this province. It is reported that a company with a capital of Tls. 2,000,000 has been organized by Chinese for this purpose. Modern machinery is to be installed with a capacity of 40 tons daily. By the old methods only 6,000 piculs of tin were saved annually.

The Oriental Consolidated Mining Company.—This company which controls the largest and most successful gold mining enterprise in Korea is capitalized at $5,000,000 and the output from its different properties aggregate approximately $1,500,000 gold annually. The two principal mines are the Taracol and the Tabowie. These concessions are about three days' journey from Seoul in the province of Unsan. Besides these properties there are many groups of rich prospects in the process of development. The company has paid over 10% annually for years and with the extension of the plant the prospect for increased profits is very bright.

Duff Development Company.—The output from the three dredgers operated by this company for the first quarter this year amounted to 1,380 ounces compared with 3,600 ounces during the corresponding period, 1909.

The Hoden Oil Gushers.—The reports from this company's oil wells are to the effect that the output of three of them increased recently from 8,000 gallons to 28,000 gallons without warning and a corresponding increase in output has been noted in less active wells.

## COMMERCIAL, FINANCIAL AND MISCELLANEOUS

Chinese Support for Parliament.—The announcement is made that Chinese, resident in foreign countries, have expressed their willingness to subscribe the sum of Tls. 80,000,000 as a contribution to the Chinese Government upon the opening of the Imperial parliament.

The Nanyang Exhibition.—The most favorable reports have been received upon the extent and comprehensiveness of this exposition which was opened June 5th. The railway facilities from Shanghai aided greatly in making it a success and the exhibits were representative of the many countries participating.

Philippine Bureau Transfer.—The Bureau of Agriculture has been transferred to the Department of Education.

Typewriting on Bills of Exchange.—A circular has been issued by the Exchange Bankers Association calling attention to the risk involved in typewriting particulars in bills of exchange instead of using pen and ink. The difficulty of detecting alterations involves a serious risk and the Association desires co-operation in reducing this risk by abandoning the use of the typewriter in this particular.

Tea Advertising Subsidy.—The Inspector General of the Chinese Imperial Customs by his personal representations has secured the continuation of the annual subsidy of Tls. 12,000 from the Peking Government for the China Tea Association.

American Businessmen's Itinerary.—The party of American businessmen who propose visiting China in September will consist of forty-five representatives of nine chambers of commerce of the Pacific States and will land first at Shanghai and proceed to Nankin, Hankow,

Peking, Tientsin, Newchang, Mukden and Port Arthur, whence they will go to Foochow, Amoy, Canton and Hongkong. Six weeks will be spent in China.

NAVAL ICE PLANT AT OLONGAPO.—The Navy Department has decided to establish an ice plant at Olongapo Naval Station to be four times the capacity of the present plant, operated by the Marine Corps.

NEW PHILIPPINE SAWMILL.—The Cadwallader Gibson Lumber Co. has completed the installation of a sawmill on their concession at Limay, Bataan, with a capacity of 90,000 feet daily. This makes two mills operating under the direction of this company which will have an aggregate capacity of 150,000 feet.

NEGROS SUGAR SHORT.—The report from Negros places the 1910 crop at 90,000 piculs as against 106,050 for 1909.

COPRA STEROLIZING EXPERIMENTS.—Consul General Du Bois of Singapore states that experiments are being made by French experts in the preservation of copra in transit from the development of rancidity. Sterolizing with a sulphur preparation has been found very satisfactory and is reported to preserve the copra from mould for several years.

YOKOHAMA SPECIE BANK AS GOVERNMENT MONETARY ORGAN.—The details of the provisions of the charter granting the bank powers in Manchuria are given by the *Japan Times* as follows:

(1) "The Yokohama Specie Bank is instructed to act as a money organ in Manchuria instead of establishing a special money organ, so that the Bank should take measures to give facilities for the trade between Japan and China and various other monetary facilities. (2) The Bank should increase the limits of loans issued on immovables on portage and make investments in such business undertakings for the development of Manchuria as are thought promising, at possible lowest rate of interest. (3) The rate of discount and the remittance commission should be made as low as possible. (4) A special investigation organ should be established for fixed investments. (5) Branches or sub-branches should be established in Manchuria when such establishment is thought necessary by the Government. The capital for fixed investment is said to be fixed at about 3,000,000 yen.

CHINA'S MONETARY REFORMS.—*The Shenpao* states that the Board of Finance has issued regulations reorganizing the currency of the empire. Among them it is provided that the Yuan will be the basis of Chinese money (silver). The word is the equivalent of the Japanese yen. It will have a weight of seven mace and two candarin or about the weight of the yen in silver. The yuan will be of 90 per cent. fineness while the fifty and twenty-five cent pieces will be of 80 per cent. and the ten cent pieces 65 per cent. fineness. The subsidiary coins will be known as five chueh (fifty cents), two chueh five feng (twenty-five cents), one chueh (ten cents) in silver, and five feng (five cents) in nickel, two feng (two cents), one feng (one cent), five li (five cash) and one li (one cash) in copper. The Yuan, chueh, feng and li are in the decimal system respectively and the rate is fixed and is not allowed to be voluntarily lowered or raised.

THE KEDAH ESTIMATES.—The revenue estimates for the year amount to $1,490,478 as against $1,240,276 actual last year and the expenditure estimates $1,568,607, including revokes, as against $1,005,328 actual last year. The following is the distribution of expenditure under the different heads:

State Council, $62,019; Police, $118,604; Land, $45,225; Survey, $35,650; Prisons, $32,-674; Medical, $30,964; Posts and Telegraphs, $21,854; Education, $20,306; Chandu Monopoly, $245,144; State Pensions, $22,960; Allowances to members of the Ruling House, $54,890; Interest on loan, $108,838; Miscellaneous, $179,000; Public Works, $384,430.

HALL & HOLTZ INCREASE CAPITAL.—At a recent extraordinary meeting of the shareholders the capital of this company was increased to $560,000 Mex. by the creation of 7,000 additional shares at $20 mex. each.

INCREASE IN PHILIPPINE EXPORTS.—A comparison of exports to the islands from the United States between the first eight months of the fiscal year 1909 and the same period in the fiscal year 1910 show an increase of $4,500,000 in the latter year.

THE MANILA COMMERCIAL COMPANY.—This company has purchased the plant, assts and good will of Messrs. Baer Senior & Co.s Successors, including the La Yebana Cigar & Cigarrette Factory as a going concern. The company has been incorporated under the laws of the Philippine Islands and will continue business as taken over with increased capital and facilities and with the same management as heretofore. Mr. A Determan is President and General Manager and Mr. P. Meller, Vice-President and Assistant General Manager.

RUSSIAN TOURISTS TO VISIT JAPAN.—A party of fifty professors and students from Tomsk, Siberia, will pay a visit to Japan in August.

TA CHING BANK IN TALIEN.—The ministry of Finance has decided to open a branch of the Ta-Ching Bank at Talienwan.

JAPANESE MINISTRY FOR THE COLONIES.—It is reported from Tokyo that the Government proposed to establish a department to oversee the affairs of Korea, Formosa and Saghalien.

EMIGRATION TO HEILUNGKIANG.—Arrangements are being made for the transportation and encouragement of 5,000 natives of the province of Hupeh to settle in the province of Heilungkiang.

OPENING YENCHI TO FOREIGN TRADE.—It is proposed to appropriate the sum of Tls. 400,000 out of the customs receipts of the port of Canton to defray the expenses of opening the port of Yenchi, situated 200 miles south-east of Kirin, to trade.

STRUCK OFF HONGKONG REGISTRY.—The Gazette has announced the following companies struck off:

The Shanghai Carrying Company, Ltd; The Hongkong Coal and Minerals Company, Ltd.; The Tung Sang Yu Newchwang Bean Oil Manufacturing Company, Ltd.; The Man Ying Land Investment and Agency Company, Ltd.; The Chungking Trading Company, Ltd.; Tours of the World (Eastern), Ltd.; The Hoi Sun Printing and Publishing Company, Ltd.; The Sing On Steamship Company, Ltd.; Cottam & Company, Ltd.; The Hongkong and South China Trading Company, Ltd.; The Heng Fung Flour Mill Company, Ltd.; The China Fishing Company, Ltd.; The Kwong Shun Steam Boat Company, Ltd.; The Oriental Union Fire Insurance Company, Ltd.; The Hill Remedy Company, Ltd.

PACIFIC TANK COMPANY EXPANDS.—The business and manufacturing plants of the National Wood Pipe Company and Pacific Tank Company have been consolidated. In future all business of the National Wood Pipe Company and Pacific Tank Company will be conducted under the name and style of Pacific Tank & Pipe Company. The officers and employees of both Companies have been retained and all contracts and other obligations of every nature are assumed by the Pacific Tank & Pipe Company.

The consolidation has been brought about by the increasing demands for the products of both companies, with a view of concentrating our efforts and specializing on water, oil, wine and mining tanks, machine banded and continuous stave water pipe, and irrigation supplies.

The company has just completed the largest pipe and tank factory in the world at Portland, Oregon, and with their other factories at San Francisco and Los Angeles being enlarged to increase the productive capacity of all departments, enables them to execute orders with dispatch.

## CATALOGUES RECEIVED

Style Book No. 24 of Murray Vehicles, Harness and Saddles. Messrs. Wilber H. Murray Mfg. Co., Cincinnati, Ohio. John R. Edgar & Co., Manila, Book and Stationery. General Catalog, Books, Office Supplies.

The Ferro Monthly by the Ferro Machine & Foundry Company, Cleveland, Ohio. Published in the interest of those who sell and those who use the Ferro motors.

☛ The Lodge & Shipley Machine Tool Company, Cincinnati, Ohio, Engine and Turret Lathes, Catalogue No. 21.

## REVIEWS

*Hydraulic Mining, with Supplements on Roads and Motor Traction for Mining* by C. C. Longridge, M. Inst. Mech. E. The Mining Journal, Price 20s. net.

This is the most comprehensive work on practical mining that has been issued for many years and will be found of great interest in every department of the mining industry from the prospector to the director of a mining company. It includes exhaustive information on the classification, test and valuation of alluvials with descriptions of different methods of applying water power and of working alluvial deposits under almost every known condition. The work is appropriately illustrated with drawings and photographs.

*The Recognition of Minerals*, by C. G. Moor, M.A., F.I.C. The Mining Journal, London, Price 7-6 net.

This work is a collection of notes and simple tests for the use of travellers and prospectors gathered in a long experience in the study of minerals. The author was formerly resident chemist to the Ashanta Goldfields Corporation, late public analyst of the City of Exeter, public analyst to the County of Dorset and the borough of Poole. The work is very exhaustive and contains monographs on geology, Ore Deposits, Etc., by Donald A. MacAllister, Assoc. R. M. S., F.G.S.

*Cost Accounting Pathfinder*, by Frank E. Goodwin, Associate Editor *Farm and Machinery*. Midland Publishing Company, St. Louis, Mo.

This little book is designed to impress upon the merchant the importance of maintaining a record of the exact cost of conducting his affairs of trade, and the substitution of old methods of guess work for modern ways of arriving at the actual cost. It is comprehensive and should be in the library of every progressive business man.

*Ornamental Concrete Without Molds*, by A. A. Houghton, a wellknown authority on concrete construction. The Norman W. Henley Publishing Company, New York. Price. $2.00 gold.

This is announced as a practical treatise explanatory of a system of molding ornamental concrete units with templates and contains additional information on the proper proportion of concrete for ornamental work, the proportionate size of the various units and the reinforcement of work. It contains everything that a concrete worker needs to know to perfect the many styles of ornamental concrete work without the purchase of expensive molds. An interesting collection of drawings illustrative of the subject is included.


## FOR SALE

500 H. P. WHEELER CONDENSOR.—One Wheeler Condenser, similar to illustration of C. H. Wheeler Condenser & Pump Company's Catalogue No. 7, Page 7. To condense steam from battery of boilers of 500 h. p. capacity. Second hand,—but in excellent condition, complete with pumps, etc.

No reasonable offer refused.

B. A. GREEN,
*General Broker, Manila, P. I.*
Cable Address: Bag.

# FAR EASTERN STOCKS AND QUOTATIONS

*Courtesy of Messrs. Kadoorie & Co., Hongkong, June 10, 1909.*

| STOCK. | WHEN ESTABLISHED | CAPITAL | NO. OF SHARES | VALUE | PAID UP | RESERVE | AT WORKING ACCOUNT | DATE | LAST DIVIDEND. | Approximate Yield per cent per annum at Present Quotation | CLOSING QUOTATIONS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **BANKS.** | | | | | | | | | | | |
| Hongkong & Shanghai Banking Corporation | 1865 | $15,000,000 | 120,000 | $125 | $125 | g £1,500,000; s $15,500,000; i $250,000 | $2,028,988 | 31-12-09 | £2. 5/- for half year ending 31-12-09, @ ex 1/9½ = $25.11 | 4 | 940 sales; £90 |
| National Bank of China, Ld. | 1891 | £699,475 | 10) 99,925 | £7 | £6 | e £4,009; $400,000 | $34,167 | 31-12-09 | $2 (London 3/6) for 1903 | .... | $76 buyers |
| **MARINE INSURANCES.** | | | | | | | | | | | |
| Canton Insurance Office Ld. | 1881 | $2,500,000 | 10,000 | $250 | $50 | $1,560,000; j $254,583; u $302,799 | Nil. | 31-12-08 | $10 for 1908 | 7 | $177½ |
| North China Insurance Co., Ld. | 1903 | £150,000 | 10,000 | £15 | £5 | g £125,000; s Tls. 225,000; u Tls. 335,253; f Tls. 146,586 | Tls. 207,572 | 30-6-09 | Final of 7/6 making 15/- for 1908. | .... | Tls. 110 sellers |
| Union Ins. Society of Canton, Ld. | 1867 | $3,100,000 | 12,400 | $250 | $100 | s $3,000,000; g £90,000; f $287,984; j £1,449,735; u $713,985 | $287,984 | 31-12-09 | Final of $20 per share, making in all $50 per share for 1908, and an int. div. of $30 per share for 1909 | 5½ | $825 sal. & sel. |
| Yangtsze Ins. Association, Ld. | 1889 | $1,200,000 | 12,000 | $100 | $60 | $1,000,000; j $294,405; $199,234 | $707,637 | 31-12-08 | $12 and bonus $3 for 1907 | 7 | $230 |
| **FIRE INSURANCES.** | | | | | | | | | | | |
| China Fire Ins. Co., Ld. | 1870 | $2,000,000 | 20,000 | $100 | $20 | $1,000,000; s $550,348; f $61,168 | $438,406 | 31-12-09 | $6 and bonus $2 for 1908 | 7½ | $114 buyers |
| Hongkong Fire Ins. Co., Ld. | 1868 | $2,000,000 | 8,000 | $250 | $50 | $1,460,000 | $426,218 | 31-12-09 | $27 for 1908 | 8% | $347 buyers |
| **SHIPPING.** | | | | | | | | | | | |
| China & Manila Steamship Co., Ld. | 1882 | $750,000 | 1) 30,000 | $25 | $25 | i $57,734 | Dr $3,777 | 31-12-09 | $4% for 1906 | .... | $7½ sellers |
| Douglas Steamship Co., Ld. | 1883 | $1,000,000 | 20,000 | $50 | $50 | $230,000; i $100,589 | Nil. | 30-6-09 | $2½ for year ending 30-6-1908 | .... | $33 sellers |
| Hongkong, Canton & Macao Steamboat Co., Ld. | 1865 | $1,200,000 | 80,000 | $15 | $15 | e $250,000; d. i. $627,500; f $103,545; $ 19,106 | $20,766 | 31-12-09 | Final of $1½ for 1909 | 7¾ | $29½ sellers |
| Indo-China Steam Navigation Co., Ld. (Preferred) / Do. Do. (Deferred) | 1882 | m £600,000 | 2) 60,000; 2) 60,000 | £5 | £5 | i £148,891 | £15,162 | 31-12-08 | 6/- for 1907 on pref. share only at ex. 1/9 11/16, $3.154 | .... | $68 sales |
| "Shell" Transport & Trading Co., Ld. | 1898 | £ 2,000,000 | 2,000,000 | £1 | £1 | £720,000; i £100,000 | £192,994 | 31-12-08 | 3rd interim of 2/- per share (coupon No. 12) making in all 4/- for 1908, and interim of 1/- for account 1909 | 5% | 94/- |
| "Star" Ferry Co., Ld. | 1898; 1900 | $200,000 | 10,000; 10,000 | $10; $10 | $10; $5 | $65,000; i $48,980 | $3,121 | 30-4-09 | $1.00; 50 cts. for year ended 30-4-09 | 4; 3½ | $24½; $14 sellers |
| **REFINERIES.** | | | | | | | | | | | |
| China Sugar Refining Co., Ld. | 1878 | $2,000,000 | 20,000 | $100 | $100 | e $520,000; r $83,620 | Dr. $8,090 | 31-12-09 | $10 per share for 1909 | 3½ | $167 sellers |
| Luzon Sugar Refining Co., Ld. | 1882 | $700,000 | 7,000 | $100 | $100 | none | Dr. $101,851 | 31-12-09 | $3 for 1897 | — | $26 sellers |
| Perak Sugar Cultivation Co., Ld. | — | Tls. 350,000 | 7,000 | Tls. 50 | Tls. 50 | Tls. 100,000 | Tls. 6,302 | 31-8-09 | Tls. 10 for year ending 31-8-09 | .... | Tls. 900 sellers |
| **MINING.** | | | | | | | | | | | |
| Chinese Engineering & Mining Co., Ld. | 1901 | £1,000,000 | 1,000,000 | £1 | £1 | d £215,000; h £84,390 | £1, 5 | 28-2-09 | Final of 1/6 making 3/- for 09 | 7 | Tls. 18 |
| Headwaters Mining Co. | 1908 | ₱600,000 | 28) 60,000 | ₱10 | ₱10 | | | | First year | | ₱10 buyers |
| Raub Australian Gold Mining Co., Ld | 1892 | £200,000 | 150,000; 50,000 | £1; £1 | 18-10; £1 | £4,873 | Dr. .... | .. | 1/2 per share, 13th div | .... | $7½ sellers |
| **DOCKS, WHARVES AND GODOWNS.** | | | | | | | | | | | |
| Fenwick (Geo.), & Co., Ld. | 1889 | $450,000 | s 18,000 | $25 | $25 | $25,275 | Dr $8,460 | 31-12-09 | $1½ for year ending 31-12-06 | .... | $10 |
| Hongkong & Kowloon Wharf & Godown Co., Ld. | 1886 | $3,000,000 | 60,000 | $50 | $50 | $550,000; t $31,993; i $40,000 | $264,847 | 31-12-09 | $2½ for 1909 | 5 | $57 buyers |
| Hongkong & Whampoa Dock Co., Ld. | 1866 | $2,500,000 | 50,000 | $50 | $50 | i $88,412; v $221,000 | $132,765 | 31-12-09 | Interim of $1½ for account 1909 | .. | $56 sales |
| Shanghai Dock & Engin'g Co., Ld. | 1906 | Tls. 5,570,000 | 13) 55,700 | Tls. 100 | Tls. 100 | Tls. 1,000,000 | Tls. 6,261 | 30-4-09 | Interim of Tls. 2½ for account 1910 | 6½ | Tls. 78 |
| Shanghai & Hongkew Wharf Co., Ld. | 1902 | Tls. 3,600,000 | 36,000 | Tls. 100 | Tls. 100 | b Tls. 697,257; r Tls. 70,000; e Tls. 125,000 | Tls. 9,222 | 31-12-09 | Final of Tls. 4 for 1909 | 7 | Tls. 121 |
| **LANDS, HOTELS AND BUILDINGS.** | | | | | | | | | | | |
| Anglo-French Land Investment Co., Ld. | 1906 | Tls. 2,500,000 | 3) 25,000 | Tls. 100 | Tls. 100 | Tls. 135,000 | Tls. 4,314 | 29-2-09 | Tls. 6 for year ending 29-2-09 | 5½ | Tls. 104 |
| Central Stores, Ld. | — | $751,845 | 16) 50,123 | $15 | $15 | n. $1,000 | $24,641 | 31-12-08 | $1.20 on old & 60 cts. on first new issue | .... | $16 buyers |
| Hongkong Hotel Co., Ld. | 1866 | $600,000; $400,000 | 12,000; 8,000 | $50; $50 | $50; $25 | $648,975; r $10,000 | $1,277 | 31-12-09 | $2.60 on old shares, $1.30 on new shares, for ½ year ending 31-12-10 | — | $107½ sales; $83½ ex div. new |
| Hongkong Land Investment & Agency Co., Ld. | 1889 | $5,000,000 | 50,000 | $100 | $100 | e $250,000 | $27,971 | 31-12-09 | Final of $3½ making $7 for year ending 31-12-1909 | 6½ | $101 sellers |
| Humphreys' Estate & Finance Co., Ld. | 1887 | $1,500,000 | 150,000 | $10 | $10 | i $226,945; 20) $25,856 | 5,471 | 31-12-09 | 45 cents for 1909 | 7½ | $8½ sellers |
| Kowloon Land & Bldg. Co., Ld. | 1889 | $300,000 | 6,000 | $50 | $30 | none | $269 | 31-12-09 | $2½ for 1909 | 5 | $31½ buyers |
| Shanghai Land Investment Co., Ld. | 1888 | Tls. 3,900,000 | 78,000 | Tls. 50 | Tls. 50 | Tls. 1,523,045; e Tls. 300,000 | Tls. 63,969 | 31-12-09 | Final of 6% bonus Tls. 1 for 1909 | 6½ | Tls. 106 sales |
| West Point Bldg. Co., Ld. | 1889 | $625,000 | 12,500 | $50 | $50 | none | $1,958 | 31-10-09 | Final of $1.80 for 1909 making in all 3.80 per share for 09 | 8½ | $40 sellers |
| **COTTON MILLS.** | | | | | | | | | | | |
| Ewo Cotton Spinning & Weaving Co., Ld. | 1895 | Tls. 1,000,000 | 5) 20,000 | Tls. 50 | Tls. 50 | Tls. 250,000; Tls. 40,098 | Tls. 10,991 | 31-10-09 | Tls. 11 for year ended 31-10-09 | 8½ | Tls. 130 |
| Hongkong Cotton Spinning, Weaving & Dyeing Co., Ld. | 1901 | $1,250,000 | 125,000 | $10 | $10 | e $20,000 | $26,297 | 30-7-09 | 50 cents for year ending 31-7-08 | .. | $6½ sellers |

## FAR EASTERN STOCKS AND QUOTATIONS—(Continued.)

| STOCK. | When Established | CAPITAL. | NO. OF SHARES. | VALUE. | PAID UP | RESERVE | AT WORKING ACCOUNT. | DATE. | LAST DIVIDEND. | Approximate Yield per cent. per annum at Present Quotation. | CLOSING QUOTATIONS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| International Cotton Manufacturing Co., Ld. | 1895 | Tls. 750,000 | 6) 10,000 | Tls. 75 | Tls. 75 | Tls. 175,000 | Tls. 8,372 | 30-9-09 | Tls. 7½ for year ending 30-9-09 | .... | Tls. 62½ |
| Laou-kung-mow Cotton Spinning & Weaving Co., Ld. | 1895 | Tls. 800,000 | 8,000 | Tls. 100 | Tls. 100 | none | Tls. 4,829 | 31-12-08 | Tls. 6 for 1909 | .... | Tls. 73 |
| Soy Chee Cotton Spinning Co., Ld | 1895 | Tls. 1,000,000 | 2,000 | Tls. 500 | Tls. 500 | Tls. 31,172 | Tls. 31,173 | | Tls. 25 for 1909 | .... | Tls. 250 |
| **MISCELLANEOUS.** | | | | | | | | | | | |
| Bell's Asbestos Eastern Agency, Ld. | 1895 | £5,377.10s. | 11) 8,604 | 12/6 | 12/6 | £1,500 | £682 | 31-12-08 | 15% for 1908 | | $10 sellers |
| China-Borneo Co., Ld. | 1903 | $720,000 | 8) 60,000 | $12 | $12 | $40,000 | Nil. | 31-12-08 | 5% for 1909 | 10 | $10½ sellers |
| China Light & Power Co., Ld.<br>Do. do. Special Shares | 1901<br>1907 | $550,000 | 50,000<br>17) 50,000 | $10<br>$1 | $10<br>$1 | none | $46,483 | 31-7-09 | 60 cents for year ending 28-2-06 | | $1.80 sellers |
| China Provident Loan & Mortgage Co., Ld. | 1898 | a $1,250,000 | 7) 125,000 | $10 | $10 | $100,000 | $2,602 | 31-12-09 | 80 cents for 1909 | | $18¾ sellers |
| Dairy Farm Co., Ld. | 1896 | $300,000 | 40,000 | $7½ | $6 | l $10,000<br>$10,000 | $1,850 | 31-7-09 | $1.20 for year ending 31-7-09 | 8½ | $19 buyers |
| Green Island Cement Co., Ld. | 1897 | $4,000,000 | 400,000 | $10 | $10 | $14,000 | $4,290 | 31-12-09 | Final of 40 cts. making in all 75 cts. per share for 1909 | 10 | $7¼ sellers & sales |
| H. Price & Co., Ld | 1907 | $120,000 | 19) 15,000 | $10 | $10 | $5,000 | $670 | 31-12-08 | 80 cents for year ending 31-12-08 | 8 | $12 |
| Hongkong Electric Co., Ld. | 1889 | $600,000 | 60,000 | $10 | $10 | none | $11,798 | 28-2-10 | A dividend of $1.20 per share and a bonus of 10 cents | 6 | $19½ sellers |
| Hongkong Ice Co., Ld. | 1881 | $125,000 | 5,000 | $25 | $25 | k $150,000 | $12,662 | 31-12-09 | Final of $8 per share making in all $10 1909 | 10 | $160 sellers |
| Hongkong Rope Manufacturing Co., Ld. | 1883 | $600,000 | $60,000 | $10 | $10 | $40,000 | $9,176 | 31-12-09 | Final of $1 making in all $2 for 1909 | 8½ | $21½ sellers |
| Maatschappij tot Mijn-, Bosch- en Landbouwexploitatie in Langkat | 1902 | Gs. 2,500,000 | 25,000 | Glds. 100 | Glds. 100 | Tls. 547,500<br>f Tls. 63,914<br>21 Tls. 547,500 | Tls. 316,682 | 31-10-08 | Interim of Tls. 12½ for 1910 | 8½ | Tls. 1400 |
| Peak Tramways Co., Ld.<br>Do. (New) | 1907 | $750,000 | 25,000<br>50,000 | $10<br>$10 | $10<br>$1 | $20,000 | $2,204 | 30-4-09 | 80 cents on fully paid shares & 8 cents on $1 paid shares for year ending 30-4-09 | 6<br>3 | $14½<br>$1.50 buyers |
| Philippine Co., Ld. | 1904 | $750,000 | 75,000 | $10 | $10 | none | Ps. 18,640 | 31-12-08 | None | .... | $10 buyers |
| Robinson Piano Co., Ltd. | 1900 | $200,000 | 22) 4,000 | $50 | $50 | $5,000 | $61,138 | 31-8-08 | 6% for ½ year ending 30.9.07 | .... | $50 sellers |
| Shanghai-Sumatra Tobacco Co., Ld. | 1902 | Tls. 600,000 | 9) 30,000 | Tls. 20 | Tls. 20 | Tls. 24,820<br>w Tls. 75,000 | Tls. 5,250 | 31-10-08 | Final of Tls. 5 making Tls. 8 for 1908 | 4¾ | Tls. 315 sellers |
| South China Morning Post, Ld. | 1903 | $150,000 | 6,000 | $25 | $25 | none | Dr. $31,096 | 31-8-09 | None | .... | $25 buyers |
| Steam Laundry Co., Ld. | 1902 | $100,000 | 20,000 | $5 | $5 | none | $63 | 31-5-09 | 40 cents for year ending 30-5-09 | 7 | $5 buyers |
| Union Waterboat Co., Ltd. | 1905 | $500,000 | 15) 50,000 | $10 | $10 | w $11,956 | .. | 31-12-08 | 60 cents for year-end. 31-12-1908 | 5 | $9 sellers |
| United Asbestos Oriental Agency, Ld. | 1896 | $100,000 | 10,000 | $10 | $4 | $46,000 | $342 | 31-5-09 | 60 cents per ordinary share for year ending 31-5-09 | 6½ | $11½ sellers |
| Watson (A. S.) & Co., Ld. | 1886 | $900,000 | 90,000 | $10 | $10 | $300,000<br>e) $25,000 | $2,613 | 31-12-08 | Final of 30 cents making 60 cents for 1908 | 6¾ | $6 buyers |
| Weismann Limited | 1904 | $30,000 | 3,000 | $10 | $10 | $12,250 | $67 | 31-7-09 | 10 per cent for year endg. 31.7.08. | .... | $10 buyers |
| William Powell, Ld. | 1901 | $105,000 | 15,000 | $7 | $7 | none | $782 | 30-6-09 | Final of 30 cents making 80 cents year ending June 30th 1906 | .... | $3 sellers |
| **RUBBERS** | | | | | | | | | | | |
| Allagar Rubber Estates, Ltd. | 1909 | £85,000 | 29) 750,000 | 2/- | 2/- | .... | .... | .... | ............ | .... | 7/- |
| Anglo-Malay Rubber Co., Ltd. | 1905 | £150,000 | 1,500,000 | 2/- | 2/- | .... | .... | .... | Interim of 6d for a/c 1910 | .... | 32/- |
| Balgownie Rubber Estate, Ltd. | 1905 | †† $200,000 | ‡‡ 20,000 | †† $2 | †† $2 | $7,400 | $11,205 | 31-3-09 | 20% Interim for 1909 | .... | $24 [S'pore] |
| Castlefield Rub. Ld., [fully pd.] | 1906 | £35,000 | 27) 32,650 | £1 | £1 | none | .... | .... | ............ | .... | 120/- |
| Damansara (Selangor) Rub. Co. | 1906 | £110,000 | 25 110,000 | £1 | £1 | nil. | £2,220 | f 31-12-08 | 2/6 for 1909 | .... | 185/- |
| Golconda Malay Rubber Co. | 1907 | £80,000 | 26 80,000 | £1 | £1 | nil. | nil. | .... | ............ | .... | 140/- |
| Highland & Lnd. Para R. Co.<br>Do. Do. [fully paid]<br>Do. Do. [partly paid] | 1906 | £310,000 | =181,454<br>123,546 | £1<br>£1 | £1<br>15/- | £8,784 | .... | .... | 7½% for 1909 (interim.) | | 155/- ex rights<br>Nominal |
| Kamuning (Perak) Rb. & Tin Co.<br>do do A Shares<br>do do B Shares | 1909 | £200,000 | 950,000<br>105,000 | 2/-<br>£1 | 1/-<br>£1 | nil.<br>.... | nil.<br>1,82 | ....<br>.... | ............<br>............ | .... | 11/- prem |
| Kuala Lumpur Rubber Co., Ltd. | 1906 | £180,000 | 180,000 | £1 | £1 | £4,000 | .... | .... | A final dividend of 2/- for 1909 | .... | 225/- |
| Linggi Plantations, Ltd. (ord.)<br>Do. Do. (7% pref.) | 1895<br>Reconst | £100,000 | ×900,000<br>10 000 | 2/-<br>£1 | 2/-<br>£1 | .... | .... | .... | ............ | .... | 65/-<br>Nominal |
| Ledbury Rubber Estates Ltd.<br>Do. Do. (contrib.) | 1908 | £125,000 | §§ 60,000<br>§§ 40,000 | £1<br>£1 | £1<br>7/6 | .... | .... | .... | ............ | .... | 112/6<br>58/6 |
| Sagga Rubber Co. Ld. | 1903 | £20,000 | 24) 2,000 | £1 | £1 | nil. | nil. | | ............ | .... | 320/- |
| Sandycroft Rubber Co. | 1904 | $100,000 | 50,000 | $2 | $2 | $20,000 | $1,275 | 31.1.08 | Interim of 30% for 1909 | .... | $43 b. ex rights & div. |
| Sekong Rubber Co., Ld | 1908 | £80,000 | 27) 80,000 | £1 | 12/6 | nil. | nil. | .... | ............ | .... | 40/- prem. |
| Shelford Rubber State Ld. | 1906 | £65,000 | 65,000 | £1 | £1 | nil. | £836 | 31.12.08 | 3% for 1908 | .... | 85/- |
| Singapore & Johore Rb. Co., Ld. | 1903 | $250,000 | 2,500 | $10 | $10 | nil. | nil. | .... | ............ | .... | $22 |
| Sungei Choh. Rb. State Co., Ld. | 1907 | £45,000 | 45,000 | £1 | 17/- | nil. | nil. | .... | ............ | .... | 122/6 |
| Sungei Kapar Rubber Co. | 1906 | £110,000 | 23) 110,000 | £1 | £1 | nil. | £3,448 | 31.12.08 | 8½% Interim for 1909 | .... | 205/- |

| LOANS AND DEBENTURES. | AGENTS FOR THE LOAN. | AMOUNT OF LOAN. | PAR VALUE. | OUTSTANDING BONDS. | WHEN PAYABLE. | CLOSING QUOTATIONS. |
|---|---|---|---|---|---|---|
| China Government, 7 per cent. Silver Loan 1886 E. | Hongkong & Shanghai Banking Corporation. | Tls. 767,200 | Tls. 250 | 1914 | Mar. 31st and Sept. 30th each year until Mar. 31st, 1917 | par. Plus interest |
| Hongkong Hotel Company, Ltd., 6 per cent. Mortgage Debentures of 1899 ‡ | Hongkong & Shanghai Banking Corporation. | $750,000 | $500 | § all | Half yearly, June 30th and December 31st | par |
| Shanghai & Hongkew Wharf Company, Ltd., 6 per cent. Debentures of 1902 | Hongkong & Shanghai Banking Corporation. | Tls. 543,900 | Tls. 100 | .......... | Half yearly, June 30th and December 31st | Tls. 103½ |
| Astor House Hotel Company, Ltd., 8 per cent. Debentures of 1903 | Hongkong & Shanghai Banking Corporation. | Tls. 500,000 | Tls. 100 | .......... | Half yearly, January 1st and July 1st | 102½ |
| Chinese Engineering & Mining Co., Ltd., 6 per cent. Debentures of 1903 † | ........... | £500,000 | ¶ | £431,960 | Half yearly, June 30th and December 31st | par. |
| International Cotton Manufacturing Co., Ltd. 7% Debentures of 1901 | Russo Chinese Bank | Tls. 500,000 | Tls. 100 | ‖ | Half yearly, March 31st and Sept. 30th | Tls. 97½. |

a Authorized capital $2,000,000.
b Building Reserve Account.
c Capital Reserve Fund.
d Depreciation Fund.
e Equalization of Dividend Fund.
f Exchange and Investment Fluctuation Account.
g Gold Reserve Fund
h Exchange Reserve Account.
i Insurance Fund.
j Reinsurance Fund.
k Contingencies Account.
l Legal Reserve Fund.
m Authorized Capital
n Sinking Fund.
o Raw Sugar Reserve Account.
p Premium on New Issue.
q Boiler Repairs and Renewals Account
r Repairs and Renewals Account.
s Silver Reserve Fund.
t Depreciation and Repair Account
u Underwriting Suspense Account.
v Special account
w Special Works Fund.
x Extra Reserve Fund.
y 72,560 owned by the Company.
z 7,200 shares unissued.
1 4,000 shares unissued.
2 First issue of 60,000, of which 10,411 unallotted.
3 5,000 shares unissued.
4 4,480 shares unissued.
5 5,000 shares unallotted.
6 1,616 shares unallotted.
7 75,000 shares unissued.
8 14,000 shares unissued.
9 17,000 shares unissued.
10 40,453 shares actually issued.
11 7,688 shares actually issued.
12 4,200 shares unissued.
13 500 shares unissued.
14 399 shares unissued.
15 22,277 shares unissued.
16 10,000 shares unissued.
17 Special shares are entitled to half of the profits.
18 Capital contributed by Chinese Government-Kuping Tls. 5,000,000.
19 12,000 issued only.
20 Typhoon and Floods Insurance Fund
21 Special Cash Reserve.
22 1000 shares unissued.
23 10,000 shares unissued.
24 4595 part paid shares.
25 7,500 shares unissued.
26 10,000 shares unissued.
27 2,350 shares unissued.
28 25,000 shares unissued.
29 100,00 shares unissued.
*Based on last year's dividend.
** Based on present dividend.
§ 216 held by the Company.
‖ Only Tls. 134,000 taken up.
¶ In certificates of £20 and £100.
‡ Redeemable in 10 years, or at option of Comp., the Company giving 6 months notice.
† Redeemable at par at rate of £10,000 per annum from 31st December 1903 to 31st December 95.
*** Redeemable at par on 30th June, 1915.
Dr. Deficit.
†† Singapore dollars.
‡‡ 4,880 shares unissued.
× 16,756 shares unissued.
§§ 25,000 shares unissued.
4140 shares unissued.

# ADDITIONAL SHANGHAI SHARE QUOTATIONS

**May 28, 1910**

| STOCK | CLOSING QUOTATIONS | HIGHEST AND LOWEST PRICES DURING THE WEEK | CAPITAL | NO. OF SHARES | VALUE | PAID UP | RESERVE | LAST DIVIDEND | WHEN PAID |
|---|---|---|---|---|---|---|---|---|---|
| Oriental Consolidated Mining Co., Ltd. | 35[10 | | G. $5,000,000 | 500,000 | G. $10 | G. $10 | none | Total of Gold 1.15 for 1909 | Jan. 10, 1910 |
| Vulcan Iron Works, Limited | Tls. 40 | | Tls. 500,000 | 1,000 | Tls. 500 | Tls. 500 | — | Tls. 50 for year ended 31.8.06 | Nov. 1, 1906 |
| Yangtsze Wharf & Godown Co., Limited | Tls. 207 | | Tls. 250,000 | 2,500 | Tls. 100 | Tls. 100 | Tls 50,000 | Tls. 15 for 1909 | April 1, 1910 |
| Wei-hai-wei Land & Building Co., Limited | Tls. 9 nominal | | Tls. 91,850 | 3,674 | Tls. 25 | Tls. 25 | — | Interim of $2.00 for 1909 | Aug. 3, 1909 |
| Anglo-German Brewing Co., Limited | $85 buyers | | $100,000 | 4,000 | $100 | $100 | none | 5% for 1909 | Mar. 12, 1910 |
| Butler Tile Works, Limited | Tls. 25 | | Tls. 60,000 | 1,200 | Tls. 50 | Tls. 50 | — | Tls. 3 for year ending 31.3.09 | June 8, 1909 |
| Major Bros., Limited | Tls. 55 | | Tls. 300,000 | 6,000 | Tls. 50 | Tls. 50 | — | — | — |
| Oriental Ice Company, Limited | Tls. 20 | | Tls. 130,000 | 2,600 | Tls. 50 | Tls. 50 | — | First year | — |
| Scharffs Oil and Bone Mills, Ltd. | Tls. 40 | | Tls. 200,000 | 4,000 | Tls. 50 | Tls. 50 | — | First year | — |
| Shanghai Ice Company, Limited | Tls. 12 | | Tls. 200,000 | 8,000 | Tls. 25 | | — | 3% for 1907 | Mar. 14, 1908 |
| Campbell, Moore & Co., Limited | $10 | | $12,000 | 1,200 | $10 | $10 | $9,000 | $3 for 1905 | Apr. 2, 1906 |
| Dunning & Company, Limited | $35 sellers | | $100,000 | 2,000 | $50 | $50 | — | $5 year ending 28.2.08 | Apr. 15, 1908 |
| J. Llewellyn & Co., Limited | $60 nominal | | $72,000 | 1,200 | $60 | $60 | — | 7.20 for 1909 | May 1, 1910 |
| Lane, Crawford & Company | $150 | | $250,000 | 2,500 | $100 | $100 | — | Final of 3% making 6% for 1908 | June 8, 1909 |
| S. Moutrie & Company, Limited | $40 | | $250,000 | 5,000 | $50 | $50 | — | $4 for year ended March 31, 1909 | June 18, 1909 |
| Weeks & Company, Limited | $25 buyers | | $400,000 | 20,000 | $20 | $20 | $40,000 | Interim of 80 cents for 1909 | Dec. .., 1909 |
| Dominion Rubber Co., Limited | Tls. 62½ | | Tls. 225,000 | 22,500 | Tls. 10 | Tls. 4 | — | First year | — |
| Kalumpong Rubber Co., Ltd. | Tls. 700 | | Tls. 700,000 | 14,000 | Tls. 50 | Tls. 50 | ** Tls. 11,844.48 | 16% for 1908 | Nov. 9, 1909 |
| Senawang Rubber Estates Company, Limited | Tls. 1550 | | Tls. 250,000 | 2,500 | Tls. 100<br>Tls. 100 | Tls. 100<br>Tls. 75 | — | — | — |
| Tebong Rubber and Tapioca Estate, Limited | Tls. 48 | | £76,000 | 76,000 | £1 | £1 | — | — | — |
| Shanghai Mercury, Limited | Tls. 50 buyers | | Tls. 105,500 | 2,100 | Tls. 50 | Tls. 50 | — | Interim of 4% for ½ year 1909 | June 21, 1909 |
| Shanghai Mutual Telephone Co., Limited | Tls. 67½ buyers | | Tls. 675,000 | 13,500 | Tls. 50 | Tls. 50 | — | Tls. 3 for 1907 | June 28, 1909 |
| China Export, Import & Lumber Company, Limited | Tls. 75 | | Tls. 350,000 | 500 | Tls. 100 | Tls. 50 | — | 5 p. c. for 1909 | May 1, 1910 |
| China Printing Co., Limited | Tls. 42½ | | Tls. 750,000 | 1,500 | Tls. 50 | Tls. 50 | — | 7% 1908 | Apr. 18, 1909 |
| Hirano Mineral Water Co., Ltd. | Y. 10 | | Y. 125,000 | 5,000 | Y. 25 | Y. 25 | — | 10%=yen 2½ for year ending 30th Sept. 08 Y. 1.20 for year ended Feb. 29 | Apr. 26, 1909 |
| E. E. Porter & Co., Limited | $50 | | $100,000 | 2,000 | $50 | $50 | — | $6 for 1907 | Apr. 22, 1908 |
| Shanghai Electric & Asbestos Company, Limited | $21 sellers | | $125,000 | 5,000 | $25 | $25 | — | 8% for year ended Feb. 28, 09 | June 21, 1909 |
| Shanghai Electric Construction Company, Limited | £6 sellers | £11 | £320,000 | 32,000 | £10 | £10 | — | First year | — |

# DEBENTURES

| LOANS | | PRICE—PLUS ACCRUED INTEREST | AMOUNT OF LOAN | OUTSTANDING | NOMINAL VALUE | RATE OF INTEREST | WHEN PAYABLE |
|---|---|---|---|---|---|---|---|
| Shanghai Municipal Debentures | 1892 | Tls. 92½ | Tls. 50,000 | Tls. 45,400 | Tls. 100 | 5 % | June & Dec. |
| do | 1893 | ,, 96 | ,, 125,000 | " 32,000 | " 100 | 5½ ,, | Do |
| do | 1894 | ,, 105 | ,, 105,000 | " 60,000 | " 100 | 6 ,, | Do |
| do | 1895 | ,, 92½ | ,, 115,000 | " 32,600 | " 100 | 5 ,, | Do |
| do | 1896 | ,, 92½ | ,, 140,000 | " 131,800 | " 100 | 5 ,, | Do |
| do | 1897 | ,, 92½ | ,, 268,800 | " 268,400 | " 100 | 5 ,, | Do |
| do | 1898 | ,, 105 | ,, 300,000 | " 60,000 | " 100 | 6 ,, | Do |
| do | 1900 | ,, 96 | ,, 33,900 | " 31,700 | " 100 | 5½ ,, | Do |
| do | 1901 | ,, 105 | ,, 250,000 | " 200,000 | " 100 | 6 ,, | Do |
| do | 1902 | ,, 105 | ,, 150,000 | " 150,000 | " 100 | 6 ,, | Do |
| do | 1903 | ,, 105 | ,, 490.500 | " 490,500 | " 100 | 6 ,, | Do |
| do | 1904 | ,, 105 | ,, 214,500 | " 214.500 | " 100 | 6 ,, | Do |
| do | 1905 | ,, 105 | ,, 320.000 | " 320,000 | " 100 | 6 ,, | Do |
| do | 1907 | ,, 105 | ,, 250,000 | " 250,000 | " 100 | 6 ,, | Do |
| Chinese Imperial Government Loan | 1886 E | ,, 250 | ,, 767,200 | " 354,400 | " 250 | 7 ,, | Mar. & Sept |
| Shanghai Land Investment Co., Debentures | 1890 | ,, 103½ | ,, 250,000 | " 250,000 | " 100 | 6 ,, | May & Nov. |
| do | 1892 | ,, 96 | ,, 250,000 | " 250,000 | " 100 | 5½ ,, | June & Dec. |
| do | 1894 | ,, 103½ | ,, 250,000 | " 250,000 | " 100 | 6 ,, | Mar. & Sept. |
| do | 1896 | ,, 92½ | ,, 250,000 | " 250,000 | " 130 | 5 ,, | June & Dec. |
| do | 1900 | ,, 103½ | ,, 250,000 | " 250,000 | " 100 | 6 ,, | April & Oct. |
| do | 1901 | ,, 104 | ,, 250,000 | " 250,000 | " 100 | 6 ,, | June & Dec. |
| do | 1901 | ,, 96 | ,, 100,000 | " 100,000 | " 100 | 5 ,, | May & Nov. |
| do | 1902 | ,, 103½ | ,, 400,000 | " 400,000 | " 100 | 6 ,, | June & Dec. |
| do | 1905 | ,, 103½ | ,, 250,000 | " 250,000 | " 100 | 6 ,, | Do |
| Shanghai Waterworks Co., Debentures | 1909 | ,, 103 | ,, 815,900 | " 815,900 | " 100 | 6 ,, | Do |
| Perak Sugar Cultivation Co., Debentures | 1902 | ,, 101 | ,, 200,000 | " 200.000 | " 100 | 7 ,, | April & Oct. |
| Shanghai Gas Co., Debentures | 1909 | ,, 103 | ,, 800,000 | " 800,000 | " 100 | 5 ,, | Do |
| Shanghai and Hongkew Wharf Co., Debentures | 1902 | ,, 102 | ,, 839,100 | " 799,800 | " 100 | 6 ,, | June & Dec. |
| Astor House Co., Debentures | 1905 | ,, 103 | ,, 750,000 | " 500,000 | " 100 | 7 ,, | Do |
| British Municipal Council, Hankow | 1901 | Sh. ,, 105 | H'kow Tls 100,000 | H'kow Tls 100 000 | " 100 | 7 ,, | June & Dec. |
| Shanghai Club Debentures | 1907 | ,, 100 | Tls. 170,000 | Tls. 170,000 | " 100 | 6 ,, | Do |
| Country Club Debentures | | ,, 97 | ,, 139,000 | " 139,000 | " 100 | 6 ,, | Do |
| do | 1907 | ,, 97 | ,, 92,000 | " 92,000 | " 100 | 6 ,, | Do |
| Lane Crawford & Co., Debentures | 1907 | ,, 102½ | ,, 110,000 | " 110,000 | " 100 | 7 ,, | Mar. & Sept. |
| Anglo-French Land Debentures | 1908 | ,, 102 | ,, 250,000 | " 250,000 | " 100 | 6 ,, | June & Dec. |
| Central Stores Ltd. Debentures | 1908 | ,, 102½ | ,, 250,000 | " 250,000 | " 100 | 8 ,, | Do |
| Shanghai Mutual Tel. Co. Debentures | 1909 | ,, 102½ | ,, 350,000 | " 200,000 | " 100 | 6 ,, | Do |

# SINGAPORE SHARE QUOTATIONS

(Courtesy Messrs. Fraser & Co., Brokers, Singapore, June 2, 1910)

| Date of Formation | Capital | Capital paid up | No. of Shares Issued | Issue Value | Paid up | Reserve | Last Dividend | Name | Buyers. | Sellers. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | **MINING** | | |
| 1906 | £30,000 | 30,000 | 30,000 | 1 | 1 | ...... | ...... | Malaya and Siam Corporation Ltd. | .... | 5[- |
| 1906 | £250,000 | 179,500 | 500,000*e* | 5/- | 5/- | ...... | ...... | Pahang Consolidated Co., Ltd. | 7[6 | 8[6 |
| 1903 | $300,000 | 300,000 | 30,000 | 10 | 10 | ...... | 10% interim for 1909 | Belat Tin Mining Co., Ltd. | 4.00 | 5.00 |
| 1907 | $300,000 | 225,000 | 22,500*s* | 10 | 10 | ...... | ...... | Bruang Ltd. | 4.50 | 5.00 |
| 1901 | $600,000 | 600,000 | 60,000 | 10 | 10 | 25,000 | 6% for year ending 30-4-09 | Bruseh Hydraulic Tin Mining Co., Ltd. | 5.00 | 6.00 |
| 1907 | $400,000 | 375,000 | 37,500*b* | 10 | 10 | ...... | ...... | Kanaboi, Ltd. | 2.15 | 2.50 |
| 1901 | £60,000 | 60,000 | 60,000 | 1 | 1 | ...... | 2[- interim 1909 | Kinta Tin Mines, Ltd. | 14.25 | 14.75 |
| 1905 | $150,000 | 99,000 | 9,900*c* | 10 | 10 | 6,485.68 | 35% for year ending 31-12-07 | Kuantan Tin Mining Co., Ltd. | 3.00 | 3.25 |
| 1906 | £120,000 | 120,000 | 120,000 | 1 | 1 | ...... | 1[- interim 1909 | Lahat Mines Ltd. | 8.00 | 9.00 |
| 1906 | $450,000 | 450,000 | 45,000 | 10 | 10 | ...... | ...... | Malacca Tin Dredging Co., Ltd. | 2.50 | 2.75 |
| 1907 | £100,000 | 80,000 | 80,000*a** | 1 | 1 | ...... | ...... | Pengkalen. Ltd. | 6.50 | 7.50 |
| 1904 | £100,000 | 80,000 | 80,000 | 1 | 1 | ...... | ...... | Pusing Bahru Tin Mines, Ltd | 8.25 | 8.50 |
| 1904 | £120,000 | 100,000 | 100,000*d* | 1 | 1 | 6,000 | 45% for year ending 30-6-07 | Pusing Lama Tin Mines, Ltd. | .... | 3.00 |
| 1907 | $450,000 | 300,000 | 30,000*y* | 10 | 10 | ...... | ...... | Rahman Hydraulic Tin, Ltd. | 8.50 | 9.00 |
| 1905 | £27,000 | 27,000 | 27,000 | 1 | 1 | ...... | 1[- for 1907 | Rambutan, Ltd. | 13.00 | 14.00 |
| 1892 | £200,000 | 200,000 | 200,000 | 1 | 1 | 4,873 | 1[2 paid April, 1910 | Raub Aust. Gold Ming. Co., Ltd, | 4.75 | 5.00 |
| 1905 | £40,000 | 40,000 | 40,000 | 1 | 1 | ...... | ...... | Redhills Tin Mining Co., Ltd. | 3.00 | 3.50 |
| 1900 | $110,000 | 110,000 | 22,000 | 5 | 5 | ...... | 3% for year ending 22-1-09 | Royal Johore Tin Mining Co., Ltd | 1.35 | 1.50 |
| 1907 | $550,000 | 500,000 | 50,000*f** | 10 | 10 | ...... | ...... | Salak South, Ltd. | 4.00 | 5.00 |
| 1907 | £80,000 | 80,000 | 80,000 | 1 | 1 | ...... | ...... | Sempam Tin Mines, Ltd. | 2.35 | 2.50 |
| 1906 | $850,000 | 850,000 | 85,000 | 10 | 10 | 25,000 | 5% interim for 1909 | Serendah Hydraulic Tin Ming. Co., Ltd. | 6.50 | 7.50 |
| 1899 | $230.000 | 230,000 | 23,000 | 10 | 10 | ...... | 3% for ½ year ending 31-12-08 | Sipiau Tin Co., Ltd. | 1.50 | 1.75 |
| 1909 | $200,000 | $150,000 | 15,000 | 10 | 10 | ...... | ...... | Sungei Gau Tin Mining Co., Ltd. | 4.50 | 5.00 |
| 1907 | £90,000 | 70,000 | 70,000*t* | 1 | 1 | ...... | 1[6 interim 1909 | Tekka, Limited | 21.00 | 22.00 |
| 1906 | £150,000 | 150,000 | 150,000 | 1 | 1 | ...... | 1[- interim 1909 | Tongkah Harbour Tin Dredging Co., Ltd. | 12.75 | 13.00 |
| 1902 | £160,000 | 160,000 | 160,000 | 1 | 1 | ...... | 3[- interim 1909 | Tronoh Mines, Ltd. | 13.00 | 14. 0 |

## SINGAPORE SHARE QUOTATIONS.—(Continued.)

| Date of Formation | Capital | Capital paid up | No. of Shares Issued | Issue Value | Paid up | Reserve | Last Dividend | Name | Buyers. | Sellers. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | **STERLING RUBBER** | | |
| 1909 | £85,000 | 75,000 | 750,000x* | 2/- | 2/- | ...... | | Allagar Rubber Estates, Ltd. | 6/3 | 7/3 |
| 1905 | £150,000 | 150,000 | 1,500,000 | 2/- | 2/- | ...... | 80% for year ending 31-12-09. | Anglo-Malay Rub. Co., Ltd. | 1.8.6 | 1.10.0 |
| 1909 | £50,000 | 35,250 | 470,000g‡ | 2/- | 1/6 | ...... | | Batang Malaka Rubber Estates, Ltd | 2/- | 3/- p. |
| 1904 | £30,000 | 20,187 10/- | 19,000 | 1 | 1 | ...... | 50% for year ending 31-12-1909 | Batu Caves Rub. Co., Ltd | 17.0.0 | 18.0.0 |
| | | | 4,750f | 1 | 5/- | ...... | | | | |
| 1906 | £80,000 | 70,000 | 70,000l* | 1 | 1 | ...... | 2½% interim 1909 | Batu Tiga (Selangor) Rubber Co., Ltd. | 5.2.6 | 5.10.0 |
| 1909 | £100,000 | 68,908 | 57,816 | 1 | 1 | ...... | | Bukit Kajang Rubber Estates, Ltd | 3.5.0 | 3.15.0 |
| | | | 22,184n* | 1 | 10/- | ...... | | " " " part paid | 2.7.6 | 2.10.0p. |
| 1907 | £30,000 | 25,500 | 24,000e* | 1 | 1 | ...... | | Bukit Lintang Rubber Estates, Ltd | 5.5.0 | 5.15.0 |
| | | | 6,000 | 1 | 5 | ...... | | " " " part paid | 2.5.0 | 2.10.0p. |
| 1903 | £70,000 | 66,700 | 66,700g | 1 | 1 | 2,000 | 60% interim 1909 | Bukit Rajah Rubber Co., Ltd. | 20.0.0 | 22.0.0 |
| 1906 | £35,000 | 30,000 | 30,000s* | 1 | 1 | ...... | | Castlefield (K.) R. Estate, Ltd. | 5.15.0 | 6.5.0. |
| 1909 | £225,000 | 175,000 | 1750,000t* | 2/- | 2/- | ...... | | Chersonese (F.M.S.) Estates, Ltd | 4/9 | 5/6 |
| 1904 | £16,000 | 16,000 | 100,000 | 2/- | 2/- | ...... | 25% interim 1909 | Cicely Rubber Estates Co., Ltd | 2.10.0 | 2.12.6 |
| | | | 60,000 | 2/- | 2/- | ...... | 26¼% interim 1909 | " " " " 5% Pref | 2.10.0 | 2.12.6 |
| 1905 | £75,000 | 62,007 | 620,070i | 2/- | 2/- | 1,000 | 80% for 1909 | Consolidated Malay Rub. Estates, Ltd | 1.11.6 | 1.13.6 |
| 1906 | £110,000 | 102,500 | 102,500k* | 1 | 1 | ...... | 50% for year ending 31-12-09 | Damansara (Selangor) Rubber Co., Ltd. | 8.12.6 | 9.2.6 |
| 1903 | £600,000 | 444,200 | 444,200a | 1 | 1 | ...... | | Duff Development Co., Ltd. | 1.5.0 | 1.7.6 |
| 1909 | £45,000 | 40,000 | 40,000p* | 1 | 1 | ...... | | Edinburgh Rub. Estates, (Selangor) Ld. | 6.0.0 | 7.0.0 |
| 1907 | £80,000 | 70,000 | 70,000n | 1 | 1 | ...... | | Golconda Rubber Co., Ltd. | 6.17.6 | 7.2.6 |
| 1906 | £310,000 | 305,000 | 305,000j | 1 | 1 | 8,784 | 15% interim 1909 | Highlands & Lowds. Para Rub. Co., Ltd.. | 6.12.6 | 6.17 6 |
| 1904 | £50,000 | 30,000 | 30,000q* | 1 | 1 | 2,500 | 25% interim | Inch Kenneth Rubber Estates, Ltd | 17.12.6 | 18.5.0 |
| 1909 | £200,000 | 182,500 | 950,000p | 2/- | 1/- | ...... | | Kam. (P.) R. & T. Co., Ltd. "A" Shares | 8/6 | 9/- p. |
| | | | 105,000 | 1 | 1 | ...... | | " " " " "B" " | .... | nom. |
| 1905 | £65,000 | 65,000 | 65,000 | 1 | 1 | ...... | 10% for year ending 31-12-09 | Kapar Para Rubber Estates, Co., Ltd | 9.10.0 | 10.0.0 |
| 1909 | £35,000 | £18,750 | 90,000 | 2/- | 2/- | ...... | | Kota Tinggi Johore Rubber Co., Ltd | 4/- | 5/- |
| | | | 160,000 | 2/- | 1/- | ..... | | " " " " | 2/- | 2/6 p. |
| 1906 | £180,000 | 180,000 | 180,000 | 1 | 1 | ...... | 30% interim | Kuala Lumpur Rubber Co., Ltd. | 8.10.0 | 9.10.0 |
| 1907 | £100,000 | 90,000 | 900,000h* | 2/- | 2/ | ...... | 25% for year ending 31-12-09 | Labu (F. M. S.) Rub. Co., Ltd. *part paid* | 17/6 | 19/6 |
| 1907 | £320,000 | 269,780 | 198,930v | 1 | 1 | 3,000 | 10% interim 1909 | Lanadron Rubber Estates, Ltd. | 6.15.6 | 7.5.0 |
| | | | 70,850 | 1 | 15/- | ...... | 10% interim 1909 | " " " *part paid* | 5.5.0 | 5.15.0p. |
| 1908 | £125,000 | 75,000 | 60,000g* | 1 | 1 | ...... | | Ledbury Rubber Estates Ltd. | 5.0.0 | 5.5.0 |
| | | | 40,000 | 1 | 7/6 | ...... | | " " " *part paid* | 3.5.0 | 3.10.0p. |
| 1895 | £100,000 | 98,324 8/- | 883,244w | 2/- | 2/- | 4,000 | 165% for year ending 31-12-09 | Linggi Plantations Ltd., | 3.1.0 | 3.3.0 |
| | | | 10,000 | 1 | 1 | ...... | 7% for year ending 31-12-08 | " " " 7% *Pref* | .... | nom. |
| 1907 | £140,000 | 118,000 | 118,000k | 1 | 1 | ...... | 3% for year ending 31-12-08 | London Asiatic R. & Produce Co., Ltd. | 7.5.0 | 7.15.0 |
| 1909 | £220,000 | 125,000 | 50,000 | 1 | 1 | ..... | | Lumut Rubber Estates, Ltd. | 3.0.0 | 3.10.0 |
| | | | 150,000 | 1 | 10/- | ...... | | " " " " *part paid* | 32/6 | 40/- p. |
| 1906 | £400,000 | 300,000 | 185,000 | 1 | 1 | ...... | 10% interim for 1909 | Malacca Rubber Plants., Ltd. | 13.10.0 | 14.0.0 |
| | | | 115,000 | 1 | 1 | ..... | " " " | " " " " 7½% *Pref.* | 13.10.0 | 14.0.0 |
| 1909 | £210,000 | 175,000 | 1,750,000 | 2/- | 2/- | ...... | | Merlimau Rubber Estates, Ltd | 7/- | 8/- |
| 1903 | £30,000 | 22,500 | 225,000l | 2/- | 2/- | ...... | 125% for year ending 31-12-09 | Pataling Rubber Estates Synd. Ltd | 3.6.0 | 3.10.0 |
| 1906 | £85,000 | 85,000 | 85,000 | 1 | 1 | ...... | 12½% interim for 1909 | Perak Rubber Plantations, Ltd | 5.15.0 | 6.5.0 |
| 1909 | £60,000 | 36,875 | 15,000z* | 1 | 1 | ...... | | Rembia Rubber Estates Ltd. | 1.15.0 | 2.0.0 |
| | | | 35,000 | 1 | 12/6 | ...... | | " " " 6% *Cum. Pref.* | 13/6 | 17/6 p. |
| 1904 | £20,000 | 18,752 | 20,000u | 1 | 1 | ..... | | Sagga Rubber Company, Limited | 16.0.0 | 17.0.0 |
| 1905 | £100,000 | 100,000 | 71,378 / 28,622l‡ | 1 | 1 | ..... | | Sapong Rubber and Tobacco Estates, Ltd. | 1.12.6 | 1.15.0 |
| 1907 | £100,000 | 100,000 | 100,000 | 1 | 1 | ...... | 15% for year ending 31-12-09 | Seafield Rubber Co., Ltd | 7.12.6 | 8.5.0 |
| 1898 | £30,000 | 30,000 | 300,000 | 2/- | 2/- | 3,000 | 287½% for year ending 31-12-09 | Selangor Rubber Co., Ltd | 3.10.0 | 3.12.6 |
| 1909 | £50,000 | 32,000 | 40,000e‡ | 1 | 16/- | ...... | | Sendayan (F. M. S.) Rubber Co., Ltd | 2.0.0 | 2.7.6 p. |
| 1906 | £65,000 | 65,000 | 65,000 | 1 | 1 | ...... | 7½% for year ending 31-12-09 | Shelford Rubber Estate, Ltd | 3.15.0 | 4.5.0 |
| 1909 | £150,000 | 100,000 | 100,000i‡ | 1 | 15/- | ...... | | Sialang Rubber Estates, Ltd | 1.12.6 | 1.15.0p. |
| 1909 | £120,000 | 100,000 | 100,000s* | 1 | 1 | ...... | | Singapore Para Rubber Estates, Ltd. | 3.15.0 | 4.0.0 |
| 1906 | £192,500 | 192,500 | 1,925,000 | 2/- | 2/- | ...... | 7½% interim 1909 | Straits Settlements (B.) Rub. Co., Ltd | 8/- | 9/- |
| 1907 | £45,000 | 40,500 | 12,600 | 1 | 1 | ...... | | Sungei Choh Rub. Estate, Co. Ltd. *Fully pd.* | 5.5.0 | 6.0.0 |
| | | | 32,400 | 1 | 17/6 | ..... | | " " " " *part paid* | 4.5.0 | 4.10.0p. |
| 1906 | £110,000 | 100,000 | 100,000c* | 1 | 1 | ..... | 37½% for year ending 31-12-09 | Sungei Kapar Rubber Co., Ltd | 9.7.6 | 10.0.0 |
| 1907 | £70,000 | 55,000 | 55,000 | 1 | 1 | ..... | | Sungei Salak Rubber Co., Ltd | 4.12.6 | 5.0.0 |
| 1904 | £50,000 | 50,000 | 50,000 | 1 | 1 | ...... | | Sungei Way (Selangor) Rub. Co., Ltd | 6.0.0 | 6.10.0 |
| 1908 | £150,000 | 60,000 | 36,000 | 1 | 1 | ...... | | Tebrau (Johore) Rubber Co | 5.0.0 | 5.5.0 |
| | | | 64,000 | 1 | 7/6 | ...... | | " " " *part paid* | 3.2.6 | 4.0.0 p. |
| 1907 | £200,000 | 170,000 | 170,000j* | 1 | 1 | ...... | 5% interim 1910 | United Serdang (S.) R. Plantations, Ltd. | 7 0.0 | 8.0.0 |
| 1908 | £85,000 | 65,000 | 650,000 | 2/- | 2/- | ...... | 10% for year ending 30-6-09 | United Sumatra Rubber Estates, Ltd | 11/6 | 12/6 |
| 1904 | £60,000 | 50,600 | 506,000m | 2/- | 2/- | ..... | 25% interim for 1909 | Vallambrosa Rubber Co., Ltd. | 2.9.0 | 2.13.0 |
| | | | | | | | | **DOLLAR** | | |
| 1909 | $120,000 | 105,000 | 105,000w* | 1 | 1 | ..... | | Alor Gajah Rubber Estate, Ltd | 3.50 | 4.00 |
| 1909 | $750,000 | 600,000 | 140,000b‡ | 5 | 5 | ..... | | Ayer Panas Rubber Estates, Ltd | 11.00 | 11.25 |
| 1905 | $200,000 | 151,200 | 151,200 | x 1 | 1 | 5,250 | 100% for year ending 31-3-1910 | Balgownie Rub. Estate, Ltd | 19.00 | 20.00 |
| 1910 | $500,000 | 500,000 | 50,000 | 10 | 10 | ...... | | Bukit Timah Rubber Estates, Ltd | 19.00 | 21.00 |
| 1910 | $750,000 | 700,000 | 70,000h‡ | 10 | 10 | ...... | | Changkat Serdang Estates. Ltd | 16.00 | 17.00 |
| 1909 | 200,000 | 62,500 | 12,500 | 10 | 5 | ...... | | Cheras Rubber Estates, Ltd | 9.00 | .... p. |
| 1909 | $550,000 | 475,000 | 475,000v* | 1 | 1 | ..... | | Elphinstone Estates, Ltd | 3.50 | 4.00 |
| 1909 | $300,000 | 300,000 | 300,000 | 1 | 1 | ...... | | Glenealy Plantations, Ltd. | 3.00 | 3.25 |
| 1910 | $200,000 | 164,285 | 12,857m‡ | 5 | 5 | ...... | | Haytor Rubber States, Ltd | .... | nom. |
| | | | 20,000 | 5 | 4 | ...... | | " " " " *part paid* | 7.00 | 8.00 p. |
| 1910 | $600,000 | 150,000 | 30,000c‡ | 10 | 5 | ..... | | Henrietta Estates, Ltd. | 3.00 | 5.00 p. |
| 1906 | $680,000 | 680,000 | 40,000 | 17 | 17 | ...... | | Hevea Rubber Planting Co. Ltd | 19.00 | 21.00 |
| 1909 | $250,000 | 200,000 | 20,000a‡ | 10 | 10 | ...... | | Indragiri (S.) R. and Gutta P. Co., Ltd.. | 28.00 | 30.00 |
| 1910 | 350,000 | 291,000 | 55,000 | 5 | 5 | .... | | Kelemak Rubber Estate, Ltd. | 5.00 | 5.25 |
| | | | 59,000 | 5 | 4 | .... | | " " " *part paid* | 0.10 | 0.25 p. |
| 1907 | $300,000 | 200,000 | 20,000d‡ | 10 | 7 | ...... | | Kombok Rubber Co., Ltd | 20.00 | 25.00p. |
| 1909 | $400,000 | 400,000 | 80,000 | 5 | 5 | ...... | | Pajam Limited | 17.00 | 18.00 |
| 1909 | $200,000 | 200,000 | 200,000 | 1 | 1 | ...... | | Pantai, Limited | 2.00 | 2.50 |
| 1909 | $500,000 | 450,000 | 45,000m* | 10 | 10 | ...... | | Pegoh, Limited | 45.00 | 46.00 |
| 1910 | $450,000 | 295,000 | 45,000f‡ | 5 | 5 | ...... | | Port Dickson Rubber Co., Ltd | 15.00 | 16.00 |
| | | | 35,000 | 5 | 2 | ...... | | " " " | 6.00 | 7.00 p. |
| 1904 | $100,000 | 100,000 | 50,000b* | 2 | 2 | 20,000 | 150% for year ending 31-1-10 | Sandycroft Rubber Co., Ltd | 37.00 | 38.00 |
| 1905 | $500,000 | 500,000 | 5,000 | 100 | 100 | ...... | | Singapore Rubber Co., Ltd | 400.00 | 450.00 |
| 1903 | $425,000 | 328,800 | 121,150 | 2 | 2 | ...... | 20% for year ending 31-12-09 | Singapore & Johore Rub. Co., Ltd | 16.50 | 17.00 |
| | | | 87,500 | 2 | 1 | ...... | " " " " | " " " *part paid* | 15.00 | 16.00 p. |
| 1909 | $250,000 | 100,000 | 10,000o* | 10 | 10 | ..... | | St. Helena Rubber Coy., Ltd | 40.00 | 45.00 |
| 1909 | $200,000 | 165,000 | 33,000p* | 5 | 5 | ..... | | Teluk Anson Rubber Estate, Ltd | 8.00 | 9.00 |
| 1909 | $1,000,000 | 637,500 | 737,500y* | 1 | 1 | .... | | United Singapore Rubber Estates, Ltd. | 2.80 | 3.00 |
| | | | | 1 | -/50 | .... | | " " " " " | .... | nom. |
| | | | | | | | | **GENERAL** | | |
| 1903 | £400,000 | 400,000 | 400,000 | 1 | 1 | ...... | | Singapore Electric Tramways, Co., Ltd. | 4/3 | 4/6 |
| 1907 | $1,500,000 | 1,065,150 | 25,000d* | 10 | 10 | ...... | 10% for year ending 31/12/08 | Eastern Smelting Co. Ltd | .... | 10.00 p. |
| | | | 116,450 | 10 | 7 | ...... | 10% for year ending 31-12-08 | " " " *part paid* | .... | 7.00 |
| 1898 | $225,000 | 225,000 | 4,500 | 50 | 50 | 170,000 | 15% & 5% bon. for yr. end. 31-12-09 | Fraser & Neave, Ltd. | 200.00 | 205.00 |
| 1905 | $2,400,000 | 2,400,000 | 18,000 | 100 | .... | 75,000 | 2½% for year ending 31-10-08 | Howarth Erskine, Ltd | 60.00 | 61.00 |
| | | | 6,000 | 100 | .... | ...... | 7% for year ending 31-10-08 | " " 7% *Pref* | 90.00 | 92.50 |
| 1896 | $1,000,000 | 1,000,000 | 6,000 | 100 | 100 | 40,600 | 12% for year ending 31-12-09 | Katz Brothers, Ltd. *Deferred* | .... | 125.00 |
| | | | 4,000 | 100 | 100 | ...... | 8% " " " "09 | " " 8% *Cum. Pref* | .... | nom. |
| 1901 | $34,000 | 34,000 | 3,400 | 10 | 10 | ...... | 20% for year ending 31-10-09 | Maynard & Co., Ltd. | 22.00 | 22.50 |
| 1899 | $875,000 | 875,000 | 6,000 | 100 | 100 | 175,000 | 5% for year ending 31/12/09 | Riley, Hargreaves & Co., Ltd | 77.50 | 82.50 |
| | | | 2,750 | 100 | 100 | ...... | 7% for year ending 31/12/09 | " " " " 7% *Pref* | 100.00 | .... |
| 1903 | $600,000 | 250,000 | 25,000n | 10 | 10 | ...... | 10% for year ending 30-6-09 | Singapore Cold Storage Co., Ltd | 15.00 | 16.00 |
| 1891 | $30,000 | 30,000 | 600 | 50 | 50 | 23,000 | 10% for year ending 31-7-09 | Singapore Dispensary Ltd. | 52.50 | 54.00 |
| 1884 | $200,000 | 200,000 | 2,000z | 100 | 100 | 75,000 | 15% for year ending 31-12-09 | Straits Ice Co., Ltd | 155.00 | 165.00 |
| 1890 | $500,000 | 498,000 | 4,980 | 100 | 100 | 760,000q | 10% for year end 31-12-09 | Straits Steam Ship Co., Lt | 220.00 | 240.00 |
| 1887 | $3,000,000 | 3,000,000 | 300,000 | 10 | 10 | 130,000r 1,222,409 | 10% & 5% bon. for half yr. end. 30/9/09 | Straits Trading Co., Ltd. | 59.00 | 60.00 |

a { 152,800 unissued / 43,949 6% debenture
b 2,500 unissued
c 5,100 "
d 20,000 "
e { 54,500 £1 Prefs. issued / 45,500 £1 " unissued / 100,000 5/- Ord. "
f 6,250 unissued
g 3,300 "
h 12,930 "
i 5,000 "
j £40,000 6% Debentures 22,000 unissued
k 75,000 unissued
l 94,000 "
m 35,000 "
n 20,000 unissued
o 175,000 unissued "A" shares
p Sundry Reserves.
q "
r 7,500 unissued
s 20,000 "
t 2,268 9/- paid shares
u 50,220 unissued
v 16,756 "
w 4,880 "
x 15,000 "
y 20 unissued
z 20,000 "
a* 221 7½% Debentures
b* 10,000 unissued
c* 8,550 "
d* 5,000 unissued
e* 25,000 "
f* 10,000 "
g* 30,000 "
h* 7,500 "
i* £10,000 Convertible 6% Debentures issued £10,000 do. unissued
j* 5,000 unissued
k* 20,000 "
l* 15,000 "
m* 7,000 "
n* 20,000 "
o* 5,000 "
p* 500,000 "
q* 15,000 "
r* 75,000 "
s* 15,000 unissued
t* 100,000 "
u* 262,500 "
v* 10,000 "
w‡ 5,000 "
x‡ 30,000 "
y‡ 30,000 "
z‡ 10,000 "
a‡ 10,000 "
b‡ 10,000 "
c‡ 30,000 "
d‡ 5,000 "
e‡ 50,000 "
f‡ 70,000 "
g‡ 35,000 "
h‡ 6% Deb. Stock Convertible.
i‡ 7,143 unissued.

**DEBENTURES**

| Name | Buyers. | Sellers. |
|---|---|---|
| Howarth Erskine, Ltd. 6% ........ $ 600,000 | .... | par. |
| Riley, Hargreaves & Co., Ltd. 6%, 284,000 | 1% | 3% p. |
| Singapore Electric Tramways, Co., Ltd. 5% ........ £350,000 | .... | .... |
| Singapore Municipal 5% ........ 1,878,000 | .... | nom. |
| " " 4½% of 1907 ... 1,600,000 | 6% | 7% p. |
| " " 4½% of 1909 ... 1,000,000 | 7% | 8% p. |
| " 4% ........ 602,900 | .... | 7% d |

# YOKOHAMA SHARE QUOTATIONS

COURTESY A. C. HUTTON POTTS, SHARE AND GENERAL BROKER, YOKOHAMA, JUNE 2ND, 1910.

| STOCKS. | CAPITAL. | NO. OF SHARES. | ISSUE VALUE. | AMOUNT PAID UP. | RESERVE FUND. | AT WORKING ACCOUNT OR CARRIED FORWARD. | DATE. | LAST DIVIDEND. | FOR TERM. | CLOSING QUOTATION. |
|---|---|---|---|---|---|---|---|---|---|---|
| Brett & Co., Ltd. | -Y- 28,000 | 2,800 | -Y- 10 | -Y- 10 | | | 31-12-09 | 12½% | for 1 year | 15 Sellers |
| Club Hotel, Ltd. | 185,000 | 1,850 | 100 | 100 | 3,000 | -Y- 768.96 | 31-3-10 | 6% | for 1 year | 70 Nominal |
| Grand Hotel, Ltd. | 500,000 | 5,000 | 100 | 100 | 10,000 | | 31-12-09 | 2½% | for ½ year | 100 Nominal. |
| Helm Bros., Ltd. | 186,000 | 3,720 | 50 | 50 | 25,000 | -Y- 6,395.55 | 31-12-09 | 17½% | for 1 year | 80 Sales |
| Langfeldt & Co., Ltd. | 100,000 | 2,000 | 50 | 50 | 12,500 | 3,653.92 | 31-12-09 | 10% | for 1 year | 60 Sellers. |
| C. Nickel & Co., Ltd. † | 500,000 | 20,000 | 25 | 25 | | 36,332.37 | 31-10-09 | 20% | for 1 year | 50 Sales. |
| Thwaites, Limited. | 100,000 | 2,000 | 50 | 50 | | | First Year | — | — | |
| Yokohama Engine and Iron Works * | 500,000 | 10,000 | 50 | 50 | 50,000 | -Y- 29,421.19 | 31-5-09 | — | for 1 year | 50 Nominal |
| Oriental Hotel, Ltd., Ordinary } | 250,000 | 3,000 | 50 | 50 | 306,090.49 | | 31-8-07 | 12% | for 1 year | 50 Sales. |
| Oriental Hotel, Ltd., Preference } | | 2,000 | 50 | 50 | | | | 8% | for 1 year | 52:50 Sales |
| The Union Estate and Investment Co., Ltd. ‡ | 1,000,000 | 10,000 | 100 | 100 | 6,000.00 | 1,753.03 | 30-9-09 | 6½% | for 1 year | 100 Nominal. |

† 285,000 unissued.
‡ 475,000 unissued.

*-Y- 390,000 issued.
110,000 unissued.

| DEBENTURE LOANS. | AMOUNT OF LOAN. | FACE VALUE OF DEBENTURES. | RATE OF INTEREST. | INTEREST PAYABLE. | CLOSING QUOTATION. |
|---|---|---|---|---|---|
| Brett & Company, Limited | 11,500.00 | 100.00 | 7% | 1 June and 1 Dec. | 95 Sales. |
| Yokohama United Club | 250,000.00 | 100.00 | 7% | 30 June and 31 Dec. | 100 Sales. |
| Oriental Hotel, Limited | 350,000.00 | 100.00 | 8% | 1 April and 1 Oct. | 103.50 Sales. |
| Union Estate and Investment Co., Limited | 250,000.00 | 100.00 | 6% | 30 June and 31 Dec. | 95 Sellers. |

| JAPANESE STOCKS. | FACE VALUE. | AMOUNT PAID UP. | LAST DIVIDEND. | DIVIDEND PAYABLE. | CLOSING QUOTATION. |
|---|---|---|---|---|---|
| **Bonds & Debentures.** | | | | | |
| Exchequer Bonds 2nd issue | -Y-100 | -Y-100 | 5% | March and Sept. | -Y-100.80 |
| Exchequer Bonds 3rd issue | 100 | 100 | 5% | March and Sept. | ,, 100.80 |
| Consolidated Bonds (Seiri) | 100 | 100 | 5% | June and Dec. | ,, 99.60 |
| War Bonds (Gunji) | 100 | 100 | 5% | June and Dec. | ,, 99.60 |
| Imperial 5% Bonds | 100 | 100 | 5% | March and Sept. | ,, 100.60 |
| Special 5% Bonds (issued 1906) | 100 | 100 | 5% | June and Dec. | ,, 100.00 |
| Yokohama Water Works Bonds | 100 | 100 | 6% | June and Dec. | ,, 102.50 |
| Yokohama City Public Loan Bonds | 100 | 100 | 6% | March and Sept. | ,, 104.50 |
| Osaka City Harbour Construction Bonds | 100 | 100 | 6% | June and Dec. | ,, 102.50 |
| Osaka City Public Loan Bonds | 100 | 100 | 6% | June and Dec. | ,, 102.50 |
| Kawasaki Dock Yards Co.'s Debentures | 100 | 100 | 7% | June and Dec. | ,, 102.00 |
| Tokyo Race Associations " | 500 | 500 | 30% | June and Dec. | ,, 175.00 |
| **Railways & Electric Trams.** | | | | | |
| Tokyo Railway Company, Limited | 50 | 50 | 5 2/5% | June and Dec. | ,, 72.70 |
| Yokohama Electric Tramway Company, Limited | 50 | 50 | 6% | July and Jan. | ,, 53.00 |
| Keihin Electric Tramway Company, Limited | 50 | 50 | 6% | June and Dec. | ,, 56.50 |
| Southern Manchurian Railway Co., Ltd. | 100 | 20 | 6% | June and Dec. | ,, 47.00 |
| Hanshin Electric Tramway Co., Ltd. | 50 | 50 | 12% | May and Nov. | ,, 118.50 |
| **Cotton Spinnings.** | | | | | |
| Kanegafuchi Cotton Spinning Company, Limited | 50 | 50 | 14% | July and Jan. | ,, 111.50 |
| Fuji Gassed-yarn Company, Limited | 50 | 50 | 14% | July and Jan. | ,, 101.10 |
| Tokyo Cotton Spinning Company, Limited | 50 | 50 | 8% | July and Jan. | ,, 46.00 |
| Imperial Hemp Weaving Company, Limited | 50 | 50 | 12% | July and Jan. | ,, 70.00 |
| Nisshin Boseki Kabushiki Kaisha | 50 | 17½ | 7% | — | ,, 15.20 |
| **Sugar & Beer Cos.** | | | | | |
| Dai-nippon Sugar Refinery Company, Limited | 50 | 50 | ....... | May and Nov. | ,, 22.00 |
| Ensuiko Sugar Refinery Company, Limited | 50 | 20 | 20% | June and Dec. | ,, 54.95 |
| Dai-nippon Beer Company, Limited | 50 | 50 | 12% | July and Jan. | ,, 82.50 |
| Kirin Brewery Company, Limited | 50 | 50 | 7% | July and Jan. | ,, 53.50 |
| **Docks & Steamships.** | | | | | |
| Yokohama Dock Company, Limited | 50 | 33 | 12% | June and Dec. | ,, 63.50 |
| Uraga Dock Company, Limited | 50 | 50 | ....... | July and Jan. | ,, 8.00 |
| Kawasaki Dockyard Company, Limited | 50 | 50 | 12½% | Feb. and Aug. | ,, 55.00 |
| Nippon Yusen Kaisha | 50 | 50 | 10% | May and Nov. | ,, 96.40 |
| Hokkaido Tanko S. S. Company, Limited | 50 | 50 | 5% | July and Jan. | ,, 27.50 |
| **Miscellaneous.** | | | | | |
| Tokyo Electric Light Company, Limited | 50 | 50 | 12% | June and Dec. | ,, 112.00 |
| Tokyo Gas Company, Limited | 50 | 50 | 13% | July and Jan. | , 122.50 |
| Yokohama Union Electric Light Company, Limited | 50 | 50 | 14% | June and Dec. | ,, 112.00 |
| Fuji Paper Mills | 50 | 50 | 6% | June and Dec. | ,, 32.60 |
| Otaru Timber Company, Limited | 50 | 50 | ....... | March and Sept. | ,, 8.00 |
| Hoden Petroleum Company, Limited | 50 | 50 | 20% | April and Oct. | ,, 74.00 |
| Tokyo Rope Manufacturing Company, Limited | 50 | 50 | 18% | June and Dec. | ,, 112.00 |
| Japan Horse Improvement Company, Limited | 50 | 50 | ....... | March and Sept. | ,, 14.00 |
| Tokyo Stock Exchange Company | 50 | 50 | 15 1/5% | June and Dec. | ,, 234.50 |
| Osaka Electric Light Company, Limited | 50 | 50 | 16% | July and Jan. | ,, 137.00 |
| Kobe Electric Light Company, Limited | 50 | 50 | 14% | July and Jan. | ,, 100.00 |

# BANGKOK SHARE QUOTATIONS

(COURTESY MESSRS. EDWARDS & CO., BANGKOK, SIAM.)

| NAME. | BUYERS. | SELLERS. | LAST SALES. | ESTABLISHED. | CAPITAL. | NO. OF SHARES. | ISSUE VALUE. | AMOUNT PAID UP. | RESERVE FUND | LAST DIVIDEND |
|---|---|---|---|---|---|---|---|---|---|---|
| Siam Electricity Co., Ltd. | Tcs. 375 | Tcs. 380 | Tcs. 380 | 1901 | £ 300,000 | 80,000 | £ 10— | £ 300,000 | Tcs. 491,388 | 12% Tcs. 4 bon. |
| Paknam Railway Co., Ltd. | ,, 200 | ,, — | ,, 220 | 1893 | Tcs. 400,000 | 5,000 | Tcs. 80 | Tcs. 400,000 | ,, 37,566 | 8% |
| Siam Tramway Co., Ltd. | ,, — | ,, — | ,, 108 | 1905 | ,, 1,450,000 | { 6250 Shares<br>7250 Deb.<br>1000 P. Shares | ,, 100 | } ,, 2,230,000 | ,, 1,875 | — |
| Meklong Railway Co., Ltd. | ,, — | ,, 106 | ,, 105 | 1907 | ,, 2,230,000 | 22,300 | ,, 100 | ,, 223,000 | ,, 28,000 | 5% |
| Bangkok Manufact. Co., Ltd. | ,, — | ,, — | ,, 182 | 1898 | ,, 400,000 | 4,000 | ,, 100 | ,, 400,000 | ,, 60,000 | { 7% per for 6 |
| Bangkok Dock Co., Ltd. | ,, — | ,, 135 | ,, 135 | 1865 | ,, 1,000,000 | 10,000 | ,, 100 | ,, 950,000 | ,, 220,000 | } months |
| Siam Steam Packet Co. | ,, — | ,, 57 | Par | 1898 | ,, 190,000 | 3,800 | ,, 50 | ,, 190,000 | ,, 34,000 | 5% |
| Siam Commercial Bank | ,, 1,050 | ,, — | Par | 1906 | ,, 3,000,000 | 3,000 | ,, 1,000 | ,, 3,000,000 | ,, 338,850 | 8% |
| Menam Motor Boat Co. | ,, — | ,, 100 | ,, 100 | 1905 | ,, 200,000 | 2,000 | ,, 100 | ,, 200,000 | — | 6% |
| Transport Co., Motor. | ,, — | ,, 90 | ,, 100 | 1906 | ,, 200,000 | 2,000 | ,, 100 | ,, 200,000 | — | — |
| Jenderata Rubber Co.* | ,, — | ,, £8.— | ,, 90 (for six calls) | 1906 | £ 40,000 | 4,000 | £ 10 | £ 7.-paid | — | — |
| Bagan Rubber Co. | ,, — | ,, — | ,, — | 1907 | Tcs. 300,000 | 3,000 | Tcs. 100 | Tcs. 40 per share | — | — |
| Siam Steam Navigation Co., Ltd. | ,, — | ,, — | ,, — | 1909 | ,, 2,000,000 | 10,000 | ,, 200 | — | ,, 10,000 | — |
| Siam Stone Works, Ltd. | ,, — | ,, 90 | 100 | 1909 | ,, 350,000 | 3,500 | ,, 100 | ,, 350,000 | — | 6% half year |
| Kombok Rubber Co. | ,, — | ,, — | 19 | 1906 | $ 300,000 | 30,000 | $ 100 | $7, per Share | — | — |

# PHILIPPINE SHARE REPORT

JUNE 10, 1910

| NAME | WHEN INCORPORATED | AUTHORIZED CAPITAL | ISSUE VALUE OF SHARE | NO. OF SHARES | SUBSCRIBED | PAID UP | RESERVE | WORKING % | DATE | LAST DIVIDEND | CLOSING QUOTATIONS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| American Drug Store............ | 1908 | ₱ 100,000 | ₱1,000 | 100 | 40 | ₱1,000 | ...... | ₱ 5,000 | Jan. 4, 1909.. | .................. | No sellers. |
| *Banco Español Filipino.......... | 1851 | 3,000,000 | 200 | 15,000 | 8,439 | 200 | ₱225,000 | ........ | ............ | 7% for year 1909.... | 200 buyers |
| Benguet Cousolidated Mining Co.... | 1903 | 2,000,000 | 2 | 1,000,000 | 495,000 | 2 | ...... | 38,000 | Feb. 2, 1909.. | .................. | ₱1.00. |
| Benguet Commercial Co., Ltd...... | 1908 | 200,000 | 10 | 20,000 | 7,360 | 10 | ...... | .. ..... | ............ | 7% for year 1907.... | ₱10. |
| Bua Mining Co.................. | 1905 | 300,000 | 100 | 3,000 | 2,620 | 100 | ...... | 12,900 | Dec. 5 1909. | .................. | ₱100. |
| Cadwallader-Gibson Lumber Co.... | 1908 | 1,000,000 | 100 | 10,000 | 8,650 | 100 | ...... | ........ | ............ | .................. | No sellers. |
| *Camote-Clayton Mining Co...... | 1909 | 400,000 | 10 | 40,000 | 20,000 | 10 | ...... | ........ | ............ | .................. | ₱10. |
| *Compania Maritima.............. | ...... | 1,018,000 | 200 | 5,090 | 5,090 | 200 | ...... | ........ | ............ | .................. | ₱50 sales |
| *El Varadero de Manila........... | ...... | 350,000 | 100 | 3,500 | 3,500 | 100 | ...... | ........ | ............ | .................. | Sellers 70 |
| Electrical Supply Co., Inc.......... | 1909 | 100,000 | 100 | 11,000 | 500 | 72 | ...... | ........ | ............ | .................. | No sellers |
| Export & Import Lumber Co....... | ...... | 200,000 | 200 | 1,000 | 1,000 | 200 | ...... | ........ | ............ | .................. | No sellers. |
| *Fabrica de Hielo de Manila....... | 1894 | 350,000 | 50 | 7,000 | 7,000 | 50 | ...... | ........ | ............ | 18% for year 1908... | ₱75 sales. |
| *Germinal Cigar Factory.......... | 1900 | 500,000 | 500 | 1,000 | 1,000 | 500 | ₱143,499 | 639.41 | Dec. 31, 1909 | 15% for year 1909 and 6% on capital...... | 500 sellers. |
| H. E. Heacock Co................ | 1909 | 100,000 | 100 | 1,000 | 800 | 100 | ...... | ........ | ............ | First year........... | No sellers. |
| *Headquarters Mining Co. (Inc.)... | 1908 | 600,000 | 10 | 60,000 | 35,000 | 10 | ...... | ........ | ............ | .................. | ₱10 buyers. |
| Insular Lumber Co............... | 1907 | 2,000,000 | 200 | 10,000 | 9,000 | 200 | ...... | ........ | ............ | .................. | No sellers. |
| Juan Seiboth Co., Ltd............ | 1908 | 150,000 | 20 | 7,500 | 500 | 20 | ...... | ........ | ............ | First year........... | ........... |
| *La Concha Button Factory....... | 1905 | 75,000 | 100 | 750 | 750 | 100 | ...... | ........ | .. ......... | 15% for year 1909... | ₱110 sellers. |
| Lambert, Springer Co............ | 1908 | 200,000 | 1,000 | 200 | 80 | 1,000 | ...... | ........ | ............ | .................. | No sellers. |
| Luzon Stevedoring Co............. | 1909 | 250,000 | 25 | 10,000 | 4,200 | 25 | ...... | ........ | Sept 15, 1909 | 15%.............. | ₱30. |
| Mindanao Herald Publishing Co... | 1907 | 15.000 | 100 | 150 | 75 | 100 | ...... | ........ | Dec. 31, 1908. | ½ of 1% interim for 1908 | No sellers. |
| Newspaper Publishing Co......... | 1907 | 400,000 | 100 | 4,000 | 3,740 | 100 | ...... | ........ | ............ | .................. | ........... |
| Minas Carbon de Batan........... | 1902 | 1,000,000 | 200 | 5,000 | 1,523 | 200 | ...... | 136,812 | ............ | .................. | 200 |
| Walter E. Olsen Co., Inc.......... | 1909 | 500.000 | 100 | 5,000 | 2,033 | 100 | ...... | ........ | ............ | First year........... | No sellers. |
| Paracale Gold Dredging Co........ | 1907 | £10,000 | £1 | 10,000 | 9,000 | £1 | ...... | ........ | ............ | .................. | No sellers. |
| Palomar Park Amusement Co..... | 1908 | 300,000 | ...... | 300,000 | 60,312 | .50 | ...... | ........ | ............ | .................. | ₱1. |
| Phil. Hemp Machine Co., Ltd...... | 1907 | 1,000,000 | 100 | 10,000 | 8,500 | 100 | ...... | ........ | ............ | .................. | ₱100 |
| Philippine Publishing Co.......... | 1907 | 600,000 | 200 | 3,000 | 2,181 | 200 | ...... | ........ | Mar. 1st, 1909 | ₱3 a share for 1908.. | ₱50 |
| Port Banga Lumber Co........... | 1908 | 100,000 | 100 | 1,000 | 934 | 100 | None. | 40,000 | First Saturday in January.. | None.............. | No sellers. |
| The Philippine Gold Dredging Co... | 1907 | 200,000 | 10 | 20,000 | 20,000 | 10 | ...... | ........ | ............ | .................. | No sellers. |
| *Philippine Co., Ltd............. | ...... | 750,000 | 10 | 7,500 | 7,500 | 10 | ...... | ........ | ............ | .................. | ₱5 buyers |
| Philippine Rosin & Turpentine Co.. | ...... | 150,000 | 1 | 150,000 | 70,000 | 1 | ...... | ........ | ............ | First year........... | ........... |
| Philippine Exploration Co........ | 1908 | 2,000,000 | 10 | 200,000 | 90,000 | 10 | ...... | ........ | ............ | .................. | ₱15 buyers |
| The Rosenstock Pub. Co.......... | 1908 | 75,000 | 10 | 7,500 | 6,000 | 10 | ...... | ........ | ............ | .................. | No sellers. |
| *San Nicolas Iron Works.......... | ...... | 300,000 | 500 | 600 | 600 | 500 | ...... | ........ | ............ | .................. | ₱200 sellers. |
| San Mauricio Gold Mining Co...... | 1908 | 4,000,000 | 200 | 20,000 | .... | ....... | ...... | | ............ | First year........... | ₱200. |
| Tarlac Railway Co................ | 1906 | 150,000 | 100 | 1,500 | 1,500 | 100 | ...... | ₱23,329 | June 30, 1908. | .................. | No sellers. |
| Union Hemp Machine Co.......... | 1909 | 50,000 | 10 | 5,000 | 2,600 | 10 | ...... | ........ | ............ | .................. | No sellers |
| Zamboanga Cold Storage Co...... | 1903 | 40,000 | 100 | 400 | 200 | 100 | ₱8,500 | .......... | May 1st, 1909. | 20%.............. | ₱120. |

* John T. Macleod's share list

# PHILIPPINE BONDS

| | DATED | AUTHORIZED | ISSUED | OUTSTANDING | PAR VALUE | RATE OF INT. | WHEN PAYABLE | LAST QUOTATION |
|---|---|---|---|---|---|---|---|---|
| Philippine Friar Land Bonds................ | Feb. 1st, 1904 | $7,000,000 | $7,000,000 | $7,000,000 | $ 100 | 4% | Feb. 1, 1914 | 104[illegible] |
| Public Works and Permanent Improvement Bonds........ | March 1, 1905 | $5,000,000 | $2,500,000 | $2,500,000 | $ 100 | 4% | March 1, 1915 | 104[illegible] |
| Do. ................ | Feb. 1, 1906 | ................ | $1,000,000 | $1,000,000 | $ 100 | 4% | Feb. 1, 1916 | 104[illegible] |
| Manila Sewer and Water Works Improvement Bonds.... | June 1, 1905 | $4,000,000 | $1,000,000 | $1,000,000 | $ 100 | 4% | June 1, 1915 | 104[illegible] |
| Do. ................ | Jan. 2, 1907 | ................ | $2,000,000 | $2,000,000 | $ 100 | 4% | Jan. 2, 1917 | 104[illegible] |
| Philippine Railway First Mortgage Four per cent Thirty Year Sinking Fund Gold Bonds ................ | July 1, 1907 | $15,000,000 | $5,736,000 | $5,736,000 | $1000 | 4% | July 1, 1937 | 97 |

*Payment of interest guaranteed until maturity or redemption by the Philippine Government.


## *Professional Cards*

**CEMENT TESTS**

**Made according to the latest British Standard Specification, or to any other, as required : : : :**

**COAL TESTS**

**Ordinary tests. Caloriphic value. Elementary analysis**

**MINING INSTITUTE AND ANALYTICAL LABORATORY**

**Dr. LIVIO SILVA**

**EXAMINATIONS AND REPORTS FOR FINANCING**

**CABLE ADDRESS: "YOUNGENG" NEW YORK**

**C. G. YOUNG**

**ENGINEERING AND CONSTRUCTION**

**Sixty Wall Street, New York**

**EXPERIENCE COVERS:**

***New Zealand, South America, Australia, United States, Canada, Philippine Islands, and is prepared to handle business throughout China, Japan and the Far East.***

**MERITORIOUS PROJECTS FINANCED**

# ALPHABETICAL LIST OF ADVERTISERS


American Asiatic S. S. Co. 31
Anderson & Co., Wm. H. 39
Anderson, Meyer & Co. 80
Arnhold Karberg & Co 19
Astor House Hotel Co. Cover
Atlantic, Gulf & Pacific Co. 27
Baldwin Locomotive Works 32
Banco Español Filipino Cover
Bell, David W. 18
Bohler Bros & Co. 55
Brighten, Malcolm & Co., Ltd. 55
British American Tobacco Co., Ltd. 85
Cadwallader-Gibson Lumber Co. 23
California-Manila Lumber Co. 21
Carmichael & Clarke 10
Chee Hsin Cement Co., Ltd 40
China Import Export Lumber Co. 49
China Merchants Steam Nav. Co. 54
China Mutual Life Insurance Co. 50
China and Manila S. S. Co 81
Chinese Eng. & Mining Co. 4
Chinese Eastern Railway 16
Cia. General de Tabacos Filipinas 36
Cia. Trasatlantica 35
Clarke, M. A 42
Cook's Sons, Adam 6
Defiance Machine Works 20
Derham Bros 23
Deutsch-Asiatische Bank 1
Dickeson, Jones & Co. 41
Dollar, Robert & Co. 55
Earnshaw, M & Co., Inc 7
East Asiatic Dredging Co 27
Eastern Engineering Co 49
Export and Import Lumber Co 23
Fearon, Daniel & Co 13-30
Fairbanks Morse & Co. 57
Ferro Machine & Foundry Co. 29
Fox Typewriter 33
Fushun Coal 3
Gardner Governor Co. 32
Gas Engine & Power Co. and Charles L. Seabury & Co. Consolidated 28
General Electric Co. 20
Germann & Co., Ltd 57
Germinal Cigar Factory 35
Gordon & Co. 45
Grand Rapids Gas Engine & Yacht Co. 29
Gray Motor Co. 29
Green Island Cement Co., Ltd. 38
Greilsammer Bros. 24
Harvey, Stuart S. 43
Hongkong Rope Mfg. Co., Ltd. 31
Hongkong & Shanghai Banking Corp. Cover
Hongkong & Whampoa Dock Co., Ltd. 10
Honolulu Iron Works Co. 58
Hupeh Cement Co 40
Imperial Hotel, Ltd. 52
International Correspondence Schools 13
Insular Lumber Co. 24
International Cold Stores, Ltd 41
International Banking Corp. Cover
Jardine, Matheson & Co. 25
Kawasaki Dockyard Co. Ltd 7
Kiangnan Dock & Engineering Works 8
La Parisien Carriage Factory 34
Lambert-Springer Co 60
Lodge & Shipley Machine Tool Co. 27
Malthoid 60
Melchers & Co 52
McGregor, Samuel & Co 55
Mitsu Bishi Dockyard & Eng Works 6
Mitsui Bussan Kaisha 5-48
Morse & Son, A. J. 36
New Metropole Hotel 50
New Engineering and Shipbuilding Works, Ltd 11
Nicholson, C. S 6
Nippon Yusen Kaisha 58
North British Locomotive Co. Ltd. 47
Olsen & Co., Walter E. Cover
Pacific Mail S. S. Co 37
Pacific Tank and Pipe Co. 60
Paraffine Paint Co 60
Penberthy Injector Co 32
Philippine Islands 2
Pickett Harness Co 34
Port Banga Lumber Co 24
Racine, Ackermann & Co 39
Remington Typewriter Co 33
Rose, Downs & Thompson, Ltd 44
Russo-Chinese Bank 1
San Miguel Brewery 45
Santa Mesa Rope Works 13
Schuchardt & Schütte, Berlin 53
Shanghai Dock & Eng. Co., Ltd 12
Shanghai Electric and Asbestos Co., Ltd 44
Shanghai Gas Co., Ltd 28
Shanghai Nanking Railway 15
Shanghai Machine Co 26
Shanghai Waterworks Co. Ltd. 50
Shewan, Tomes & Co. 46
Siemens Schuckert 17
Siemssen & Co 22
Southern Pacific Co 27
South Manchuria Railway Mining Dept 3
South Manchuria Railway 14
Stevenson & Co., Ltd., W. F. 10
Strong, Frank L. 43
Superior Wrench Co 49
Swift & Co 32
Taikoo Dockyard and Engineering Company of Hongkong, Ltd. 9
Thompson F. H 49
Toyo Kisen Kaisha 29
Truscott Boat Mfg. Co 50
Trussed Concrete Steel Co 33
United States Steel Products Export Co 56
Vander Loo & Co. F. A. 51
Victorian Government Agency 1
Vulcan Iron Works 29
Vulcan Iron Works Ltd 13
Warner Barnes & Co., Ltd 21
Wen Ming Press 26
White & Co. (Inc.), J. G 53
Westinghouse Brake Co., Ltd 53
Wood Waste Distilleries Co. 41
Woosung Car Shops 51
Worthington, Henry R. 20
W. T. Henley's Telegraph Work Co., Ltd 18
Ynchausti & Co 34
Yokohama Specie Bank 1
Young, C. G. 35


## Classified Advertisers' Directory

*(Please mention this journal)*

**AGRICULTURAL IMPLEMENTS**
Anderson & Co., W. H.
Germann & Co., Ltd.

**ALCOHOL DISTILLERS**
Cia. General de Tabacos de Filipinas.
Ynchausti & Co.
Wood Waste Distilleries Co.

**ASBESTOS GOODS**
Shanghai Electric & Asbestos Co., Ltd.

**BANKS**
Deutsch-Asiatische
Hongkong and Shanghai Banking Corp.
International Banking Corp.
Banco Español Filipino
Russo-Chinese Bank
Yokohama Specie Bank, Ltd.

**BOILER MAKERS**
Babcock & Wilcox (D. W. Bell)

**BOILERS (PATENT WATER TUBE STEAM)**
General Electric Co.
Jardine Matheson & Co.

**BREWERIES**
San Miguel Brewery

**BRIDGE-BUILDERS**
Atlantic, Gulf and Pacific Co
White & Co., Inc., J. G.

**BROKERS, GENERAL**
C. S. Nicholson

**BUILDING MATERIALS**
California-Manila Lumber Com. Co.
Malthoid Paraffine Paint Co.
W. H. Anderson & Co.
Samuel McGregor & Co.

**CABLES, TELEPHONE, TELEGRAPH SUPPLIES**
David W. Bell
Brighten, Malcolm & Co., Ltd.
W. T Henley's Telegraph Works Co., Ltd.
Melchers & Co.

**CEMENT**
Anderson & Co., W. H.
Chee Hsin Cement Co., Ltd.
Chinese Engineering and Mining Co., Ltd.
Green Island Cement Co., Ltd.
Racine, Ackermann & Co.

**CIGAR AND CIGARETTE MANUFACTURERS**
Castle Bros.-Wolf & Sons
Cia. Gral. de Tabacos de Filipinas
Germinal Cigar Factory
Olsen & Co., Walter E.

**CIVIL ENGINEERS**
Eastern Eng. Co.
C. G. Young

**COAL DEALERS**
Chinese Engineering and Mining Co., Ltd.
The Mitsui Bussan Kaisha
South Manchuria Railway Co.

**COAL HANDLING MACHINERY**
Atlantic, Gulf & Pacific Co.

**COFFEE DEALERS (WHOLESALE)**
M. A. Clarke (Mayon)

**CONTRACTORS, (GENERAL)**
Atlantic, Gulf and Pacific Co.
Bohler Bros. & Co.
Brighten, Malcolm & Co., Ltd.
Frank L. Strong
Germann & Co., Ltd.
Gordon & Co.
Lambert-Springer Co.
Siemssen & Co.
White, & Co. Inc., J. G.

**CONTRACTORS, ELECTRICAL**
Arnhold, Karberg & Co.
Germann & Co., Ltd.
Shanghai Electric & Asbestos Co., Ltd.
Shewan Tomes & Co.
Frank L. Strong

Siemens Shuckert
Siemssen & Co.

**CONSULTING ENGINEERS**
Atlantic, Gulf & Pacific Co.
Carmichael & Clarke.
Germann & Co., Ltd.
White & Co., Inc. J. G.
C. G. Young

**DIVING APPARATUS**
A. J. Morse & Son

**DREDGERS**
Dickeson, Jones & Co.
Melchers & Co.
Rose, Downs & Thompson, Ltd.

**DRY CELLS**
T. H. Thompson.

**EDUCATIONAL**
I. C. S. Correspondence Schools.

**LITHOGRAPHERS**
The Wen Ming Press.

**ELECTRIC LIGHTING PLANTS**
Anderson Meyer & Co.
Arnhold, Karberg & Co.
Brighten, Malcolm & Co., Ltd.
Fearon, Daniel & Co.
General Electric Co.
Germann & Co., Ltd.
Siemens Shuckert
Siemssen & Co.
Shewan, Tomes & Co.

**ELECTRICAL SUPPLIES**
Anderson Meyer & Co.
Arnhold Karberg & Co.
Jardine, Matheson & Co.
Babcock & Wilcox (D. W. Bell)
Belliss & Morcom (D. W. Bell)
Fearon, Daniel & Co.
General Electric Co.
Melchers & Co.
Shanghai Electric & Abestos Co. Ltd.
Shewan, Tomes & Co.
Siemens Shuckert
Siemssen & Co.

**ENGINES (PUMPING)**
Belliss & Morcom (D. W. Bell)
Siemssen & Co.

**EXCAVATORS AND ELEVATOR**
Dickeson, Jones Co.
Rose, Downs & Thompson, Ltd
Siemssen & Co.

**EXPLOSIVES**
Jardine Matheson & Co., Ltd.

**FIBRE MACHINERY**
Dailey, C. E.

**FOOD PRODUCTS**
Anderson & Co., W. H.
Swift & Co.

**GAS. ENGINES**
Fairbanks, Morse & Co.
Castle Bros.-Wolf & Sons
Shanghai Gas Co., Ltd.
Truscott Boat Mfg. Co.
Melchers & Co.

**HARDWARE**
Springer-Lambert Co.

**HARNESS MANUFACTURERS**
Pickett Harness Co.

**HOTELS**
Astor House Hotel Co.
Hotel des Colonies
Tokyo Imperial Hotel
Melchers & Co.
New Metropole Hotel

**ICE MACHINERY**
Vulcan Iron Works
Melchers & Co

**INJECTORS**
Penberthy Injector Company.

**INSURANCE**
Stevenson & Co., Ltd., W. F.

**JOURNALS, SCIENCE**
The Philippine Journal of Science

**LIFE INSURANCE**
China Mutual Life Insurance Co., Ltd.
Shanghai Life Insurance Co., Ltd.

**LUMBER DEALERS**
Cadwallader-Gibson Lumber Co.
California-Manila Lumber Com. Co.
Export and Import Lumber Co.
Insular Lumber Co.
Jardine, Matheson & Co.
Port Banga Lumber Co.

**MACHINERY MERCHANTS**
Anderson, Meyer & Co.
Arnhold Karberg & Co.
Shanghai Machine Co.
Fearon, Daniel & Co.
Frank L. Strong
Stuart S. Harvey
Siemssen & Co.
Schuchardt & Schutte.

**MARINE ENGINES**
Fairbanks Morse & Co.
Truscott Boat Mfg. Co.
Grand Rapids Gas, Engine & Yacht Co.

**MILL MACHINERY**
Rose, Downs & Thompson Ltd.

**MINING MACHINERY**
Atlantic, Gulf & Pacific Co
Germann & Co., Ltd.
Melchers & Co.
Shewan, Tomes & Co.
Siemssen & Co

**MINING COMPANIES**
Chinese Engineering & Mining Co
South Manchuria Railway Co.
Mitsui Bussan Kaisha

**MOTORS**
Grand Rapids Gas, Eng. & Yacht Co.
The Gray Motor Co.
The Ferro Machine & Foundry Co.

**MOTOR LAUNCHES**
Earnshaw, M. & Co.
Gas Engine & Power Co. and Charles L. Seabury & Co (Consolidated)
Fairbanks, Morse & Co.

**OFFICE FURNITURE**
Cadwallader-Gibson Lumber Co.

**PAINTS OILS AND VARNISH**
F. A. Vander Loo & Co.
Lambert-Springer Co.
Shanghai Electric & Asbestos Co., Ltd.
Adam Cook's Sons

**PULLEYS (STEEL)**
Schuchardt & Schütte

**PUMPS**
Shewan, Tomes & Co.
Jardine Matheson & Co.
Henry R. Worthington.
Shanghai Machine Co.
The Gardner Governor Co.

**RAILROADS**
Chinese Eastern
Shanghai-Nanking.
South Manchuria
Southern Pacific Co.

**RAILROAD SUPPLIES**
Anderson, Meyer & Co.
Arnhold Karberg & Co.
Brighten, Malcolm & Co., Ltd.
Fearon, Daniel & Co.
Jardine, Matheson & Co., Ltd.
Mitsui Bussan Kaisha
Siemssen & Co.
Westinghouse Brake Co., Ltd.
Shewan Tomes & Co.
Shanghai Machine Co

**REINFORCED CONCRETE CONSTRUCTION**
Trussed Concrete Steel Co.

**ROOFING PAPER**
Malthoid

**ROPE MANUFACTURERS**
Hongkong Rope Mfg. Co. Ltd.
Santa Mesa Rope Works.
Ynchausti & Co.

**SANITARY ENGINEERING**
Gordon & Co.
Lambert-Springer Co.
Shanghai Waterworks Co., Ltd.

**SAW MILLS**
Export and Import Lumber Co.
Insular Lumber Co.
Jardine, Matheson & Co.
Cadwallader-Gibson Lumber Co.
Port Banga Lumber Co.

**SERUM**
Bureau of Science

**SHIP-CHANDLERY**
Ynchausti & Co.

**SHIPPING AGENTS**
Castle Bros.-Wolf & Sons
Cia. General de Tabacos
Shewan, Tomes & Co.
Stevenson & Co., Ltd.
Warner, Barnes & Co., Ltd.

**SHIPBUILDING AND REPAIRS**
Gas Engine & Power Co. and Charles L. Seabury & Co. (Consolidated)
Hongkong & Whampoa Dock Co., Ltd.
The Kawasaki Dockyard Co. Ltd.
Kiangnan Dock and Engineering Co., Ltd.
Mitsu Bishi Dock and Engineering Works
New Engineering and Shipbuilding Works, Ltd.
Shanghai Dock and Engineering Co., Ltd.
The Taikoo Dockyard and Engineering Company of Hongkong, Limited
Earnshaw, M. & Co.
Vulcan Iron Works, Ltd.

**STEAMSHIP COMPANIES**
American Asiatic S. S. Co.
China and Manila S. S. Co., Ltd.
China Merchants Steam Nav. Co.
Cia. General de Tabacos
Nippon Yusen Kaisha
Occidental and Oriental S. S. Co.
Pacific Mail S. S. Co.
Toyo Kisen Kaisha S. S. Co.
Transatlantica S. S. Co.
Ynchausti & Co.

**STEEL MANUFACTURERS**
United States Steel Products Export Co.

**STEEL WORKS**
Bohler Bros. & Co.

**STRUCTURAL STEEL**
Bohler Bros. & Co.
A. Gulf & Pacific Co.

**SUGAR MACHINERY**
Honolulu Iron Works.

**TANKS**
Atlantic, Gulf & Pacific Co.
Pacific Tank and Pipe Co.
Shanghai Dock & Engineering Co., Ltd.

**TILES AND BRICKS**
Green Island Cement Co., Ltd.
Chinese Eng. Mining Co.

**TOBACCO DEALERS**
British American Tobacco Co., Ltd
Cia. General de Tabacos
Olsen & Co., Walter E.

**TOOLS**
Lodge & Shipley Machine Tool Co.
Shanghai Machine Co.
Lambert-Springer Co.

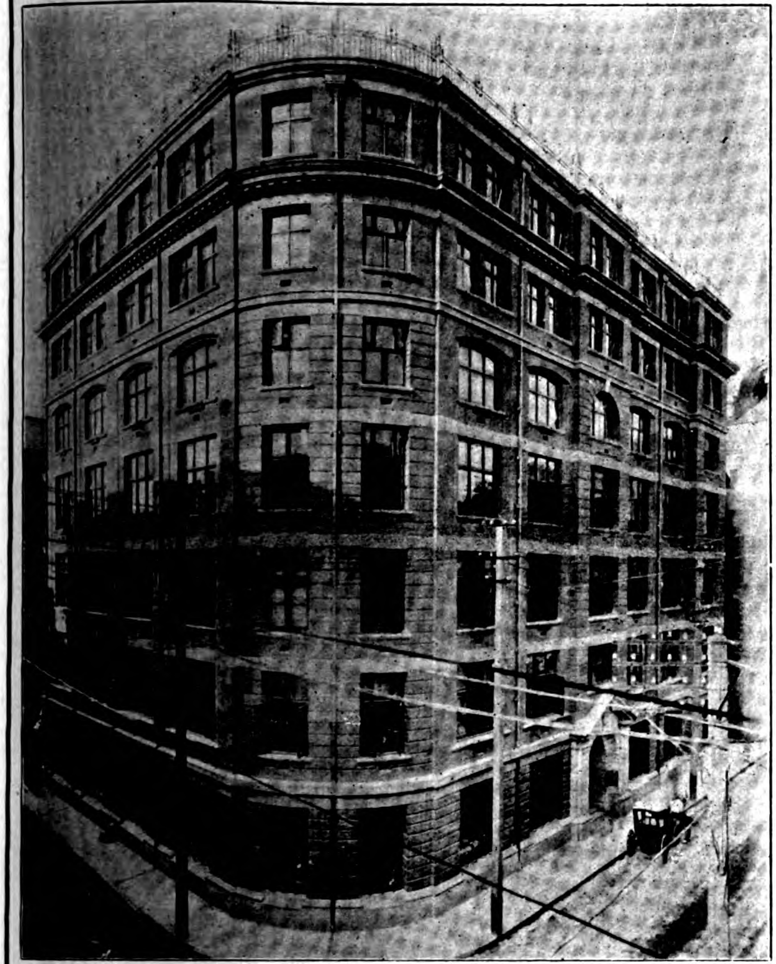
**TYPEWRITERS**
The Fox Typewriter
Remington Typewriter Co.

**WINDMILLS**
Fairbanks, Morse & Co.

**WOOD WORKING**
Defiance Machine Works.


J. J. CHOLLOT
INGENIEUR DES PONTS ET CHAUSSEES
CIVIL ENGINEER, SURVEYOR AND ARCHITECT
53 QUAI DU YANG-KING-PANG, SHANGHAI

A. J. MORSE & SON, INC.
221 High St., Boston, Mass., U. S. A.
ESTABLISHED 1837
DIVING APPARATUS
Special Apparatus built to order
FRANK L. STRONG, Agent -:- 24 Calle Echague, Manila, P. I.



ARNHOLD, KARBERG & CO.'s New Building, Kiukiang and Szechuen Roads, Shanghai, "Kahn" System of Reinforced Concrete Bars Employed in Construction


# KAHN SYSTEM

## OF REINFORCED CONCRETE

The modern way of building—Fireproof and Enduring—Costs nothing for maintenance and lasts forever.

Over 2500 *Kahn System* structures in all parts of the world—including Factories, Warehouses, Stores, Office Buildings, Hotels, Public Buildings, Bridges, Viaducts, Tunnels, Reservoirs, etc.—Over 50 important buildings for the United States Government.

Experts agree that reinforced concrete is the best building material for resisting earthquakes.

*Kahn System* controls exclusively:

- **KAHN TRUSSED BARS**—for reinforcing concrete beams, girders and floors.
- **RIB METAL**—for reinforcing slabs, walls, sewers and conduits.
- **HY-RIB**—A self-centering reinforcement for floors and roofs. A unit of lath and studs for walls and partitions.
- **RIB-LATH**—The best steel lath for plastering and stucco work.
- **"TRUS-CON" CHEMICAL PRODUCTS**—for finishing and water-proofing concrete.

Our Engineering Department will be glad to assist you with designs and estimates.

Separate catalogues showing structures of every kind, giving detailed methods of design and describing our various *Kahn System* products.

## Trussed Concrete Steel Company

HEAD OFFICE DETROIT, MICH., U. S. A.

***Eastern Agencies:***

*PHILIPPINE ISLANDS*—California-Manila Lumber Commercial Co. Room 10, Lack & Davis Bldg., Manila, P. I.

*CHINA*—Arnhold, Karberg & Co., Hongkong, Canton, Newchwang, Tsingtau, Shanghai, Tientsin.

*JAPAN*—American Trading Co., Yokohama and Kobe.

*HAWAIIAN ISLANDS*—Honolulu Iron Works Co., Honolulu, T. H.



*The Development of the*

# Remington

*is the History of the Writing Machine*

## 10 AND 11 NEW MODELS NOW READY

**Model 10, with Column Selector**
**Model 11, with Built-in Tabulator**

## Remington Typewriter Company

(INCORPORATED)

**New York and Everywhere**

McAlister & Co. Ltd., Singapore.
E. C. McCullough & Co., Manila.
Mustard & Co., Shanghai.
E. H. Tuska, Kobe and Yokohama.



# THE FOX VISIBLE TYPE-WRITER

The STANDARD TYPEWRITER of the WORLD

**THE ONLY VISIBLE TYPEWRITER** having the strength, solidity, and durability of the best blind machines.

The **FOX** is the Typewriter that compelled every other typewriter manufacturer to get out a visible model—or go out of business.

The **FOX** has every improvement and attachment of the highest grade typewriter.

It combines "The good of the old with the best of the new."

**AGENTS WANTED**

We offer the Standard Typewriter, Exclusive Territory, very liberal conditions, and every possible assistance to our representatives.

**Write for free illustrated catalog and circulars**

## FOX TYPEWRITER CO. 970-990 FRONT STREET GRAND RAPIDS, MICH., U.S.A.

FEARON, DANIEL & CO., Shanghai, Agents for China

CABLE ADDRESS: "PICKETT" | CODES: WESTERN UNION, UNIVERSAL | TELEPHONE: 1041

## HARNESS

We have the only Modern Harness Manufacturing Plant in the Far East, and have studied Oriental needs for ten years.

We make harness to fit horses of any size suited either for Driving or Draft purposes and only the best American leather is used.

We have a complete stock of the latest patterns in Smart Harness and are equipped to fill the largest order to the satisfaction of the trade.

We have made harness for the Philippine Government for the last decade.

We carry in stock the best makes of English and American riding saddles.

We are sole agents for "Eglentine" Metal Bits, Stirrups, Spurs, etc.

*Far Eastern Dealers Should Write for Our Catalogue and Wholesale Prices*

## PICKETT HARNESS CO.

MANILA, P. I.

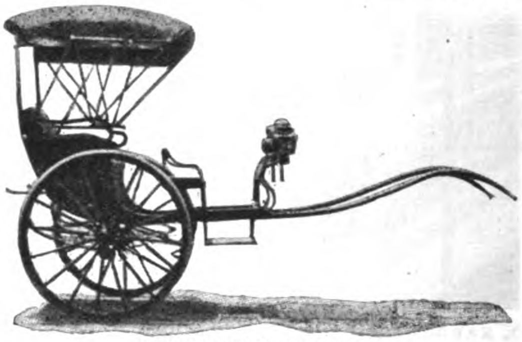
## "LA PARISIEN" CARRIAGE MANUFACTORY

Telephone 520 | 340 CALLE PALACIO | Manila, P. I.
P. O. Box 890

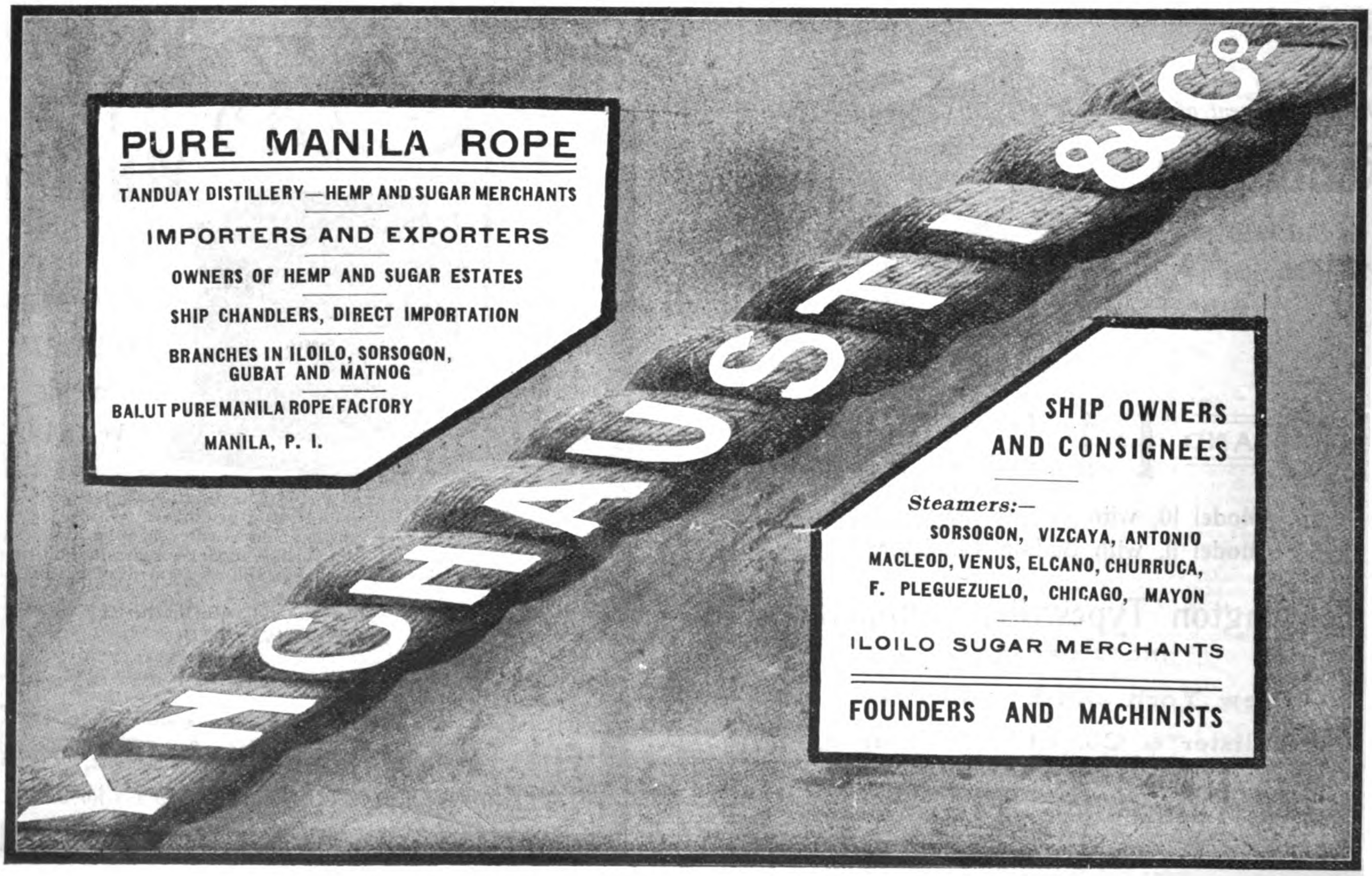
*Manufacturers of all Classes of Vehicles*

We Use The Famous
"GUIJO DE SAN MATEO"
Only the Very Best Materials,
AMERICAN AND FRENCH

**Goodyear Rubber Tires**



BLANCO TRILL Y CIA.



THE

*World's Best Products*

TOBACCOS

Garrick Smoking Mixture
Glasgow Smoking Mixture
Player's Navy Cut
Player's Navy Mixture
Old English Curve Cut
Capstan Mixture
Bull Durham
Black & Tan

VIRGINIAN CIGARETTES

Three Castles
Capstan Navy Cut
Sweet Caporal
Crosscut
Garrick, Gold Tipped
Garrick, Plain
Golden Honey Dew

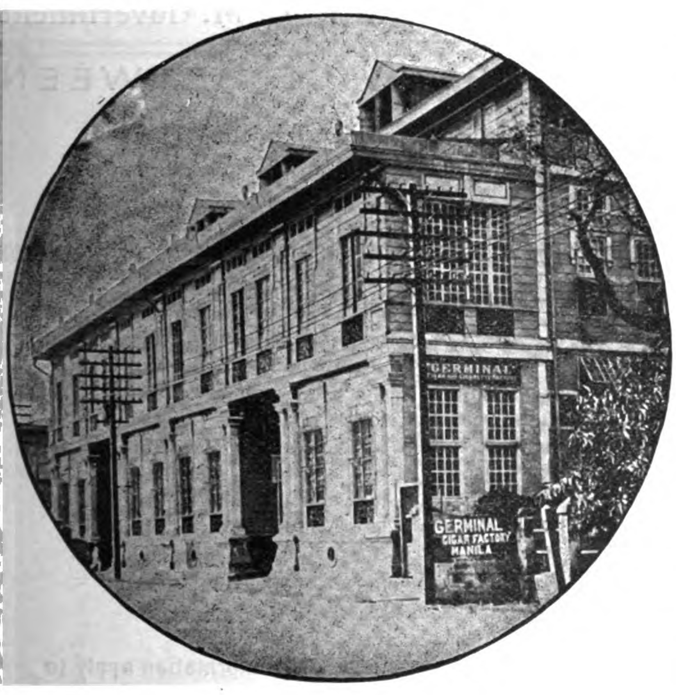
EGYPTIAN CIGARETTES

Bouton Rouge
Felucca
Nilometer
Rapido
Lotus
Natural

OBTAINABLE OF ALL DEALERS AND AT DEPOTS OF

**British-American Tobacco Company, Ltd.**

SHANGHAI -:- HONGKONG -:- MANILA -:- SINGAPORE -:- BANGKOK -:- COLOMBO -:- CHEMULPO




# "GERMINAL"

**Cigar and Cigarette Factory**

4 Calle Marques de Comillas, Manila, P. I.

FOR A MILD CIGARETTE SMOKE TRY THE "FLOREAL"

"GERMINAL" MANILA. TRADE MARK

GERMINAL CIGARS THE UNIVERSAL FAVORITE

This means the approval of discriminating critics; and shows an appreciation of the delicious richness of the choicest tobacco leaf, the exquisite aroma of an original blend, the finished touch throughout of an expert's hand - - - - - - - - -

# "FLOREAL" Cigarettes

"floreal" TRADE MARK

TELEGRAPHIC ADDRESS:
"TABACALERA"

HEAD OFFICE
BARCELONA

# COMPANIA GENERAL DE TABACOS
## DE FILIPINAS

**Established in 1882.** **Capital: £ 3,000,000**

Shipping Department, 63 Escolta.

—

Manila

General Office, Calzada Marques de Comillas.

—

Retail Store, 63 Escolta.

BRANCHES AND AGENCIES

—

in the principal cities of the world and towns of the Philippines

—

Proprietors of the celebrated factories

## "La Flor de la Isabela"

High grade cigars manufactured with the most selected leaf grown in the estates of the Company.

SPECIAL BRANDS:

Pig's tails, Vegueros Especiales, Regalia A. Lopez, Regalia G. Pereire, Favoritos A. Lopez, Favoritos A. Correa, Perfectos Especiales, Exquisitos, Reina Victoria, etc.

**Excellent common brands.**

## "La Clementina"

Alcohol Manufactures—Gin—Distilled Spirits

**GENERAL IMPORTERS AND EXPORTERS**

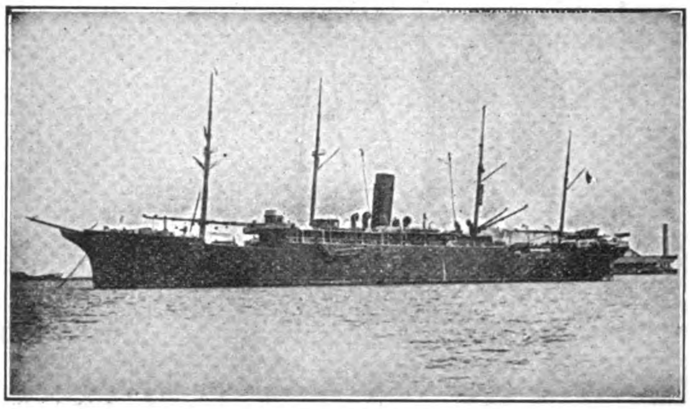
INTERISLAND STEAMERS

Under Government Contract and Inspection. Electric Light. First Class Accommodation

**FAR EASTERN BRANCH AGENCIES:**

YOKOHAMA............ 240 Settlement.
SHANGHAI............ J. DELBOURGO, 29 Rue du Consulat.
HONGKONG............ A. R. MARTY, 2 Pedder-st.

# *Spanish Royal Mail*



S. S. ANTONIO LOPEZ

# C.ia TRANSATLANTICA
## Late Lopez & Co.

Under Contract with R. C. M. Government

DIRECT SERVICE BETWEEN

Manila, Singapore, Barcelona and Liverpool. Calling at Colombo, Port Said, Genoa, Cadiz, Lisbon, Vigo.

**Regular passenger and freight service between**

Manila, Singapore, Colombo, Suez, Port Said, Genoa, Barcelona, Valencia, Cadiz, Lisbon, Vigo, Coruna and Liverpool. Regular monthly service between Barcelona, Cadiz, New York, Cuba and Mexico. Through tickets from Manila to New York with change of steamer at Barcelona or Cadiz. Through bill of lading to all European ports and to Atlantic Coast Ports of U. S. A. Cargo for Naples transhipped at Genoa and for London and Hamburg at Liverpool : : : : : : : : : : :

**For freight and passage and full information apply to**

AGENT DE LA

# COMPANIA TRANSATLANTICA

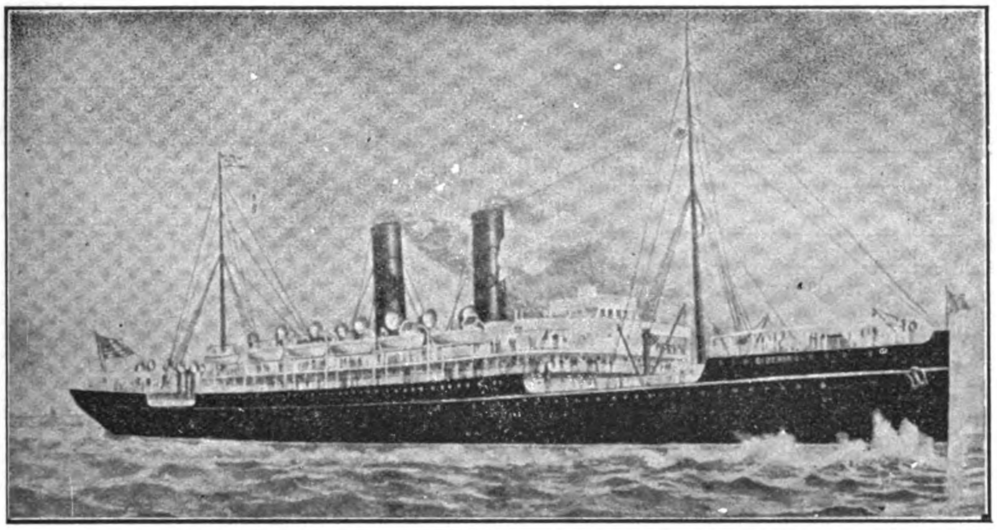
Plaza Moraga No. 9 Manila, P. I.

# THE SEMI-TROPICAL ROUTE

PACIFIC MAIL STEAMSHIP COMPANY
TOYO KISEN KAISHA
DIRECT SERVICE BETWEEN SAN FRANCISCO AND THE FAR EAST

SAN FRANCISCO
HONOLULU
YOKOHAMA
KOBE
NAGASAKI
SHANGHAI
HONGKONG
MANILA

A. M. GARLAND
FREIGHT TRAFFIC MANAGER
A. G. D. KERRELL
GENERAL PASSENGER AGENT



MANCHURIA
MONGOLIA
KOREA
SIBERIA
CHINA
ASIA
TENYO MARU
CHIYO MARU
NIPPON MARU

GENERAL OFFICE,
"FLOOD BUILDING"
SAN FRANCISCO, CAL.

SIBERIA—Transpacific Record 10 days 10 hrs. (Yokohama-San Francisco)

FEATURES OF THE LINE:—Southern route; passengers enjoy outdoors throughout; deck bathing. The call at Honolulu, Oahu, the most fertile and beautiful Island of the Pacific. The only line to San Francisco, the greatest port of the Pacific.

Castle Bros.-Wolf & Sons, Agents, Manila, P. I.

# SAN FRANCISCO TO THE EAST

*The Overland Limited*

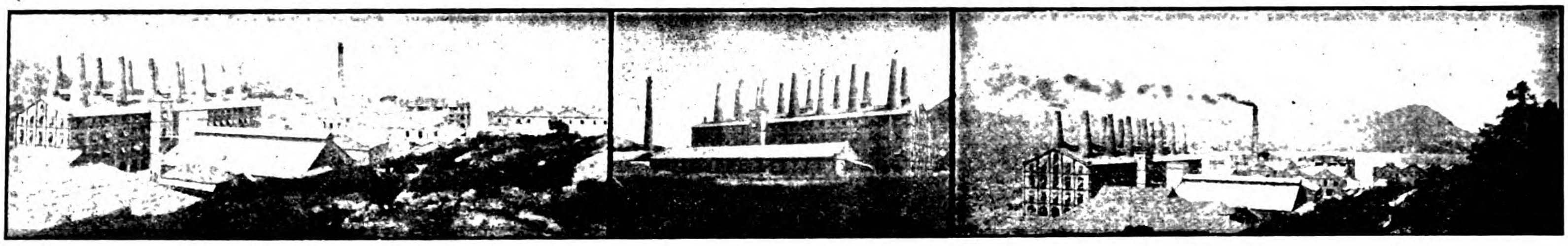
Electric-lighted parlor sleeping cars, combination buffet-library and drawing-room observation cars. Diner all the way

*The Last Word in Luxurious Travel*

Over the scenic route and straight across the Great Salt Lake by way of Lucin-Ogden cut-off, a wonderful triumph of modern engineering

# SOUTHERN PACIFIC

# GREEN ISLAND CEMENT

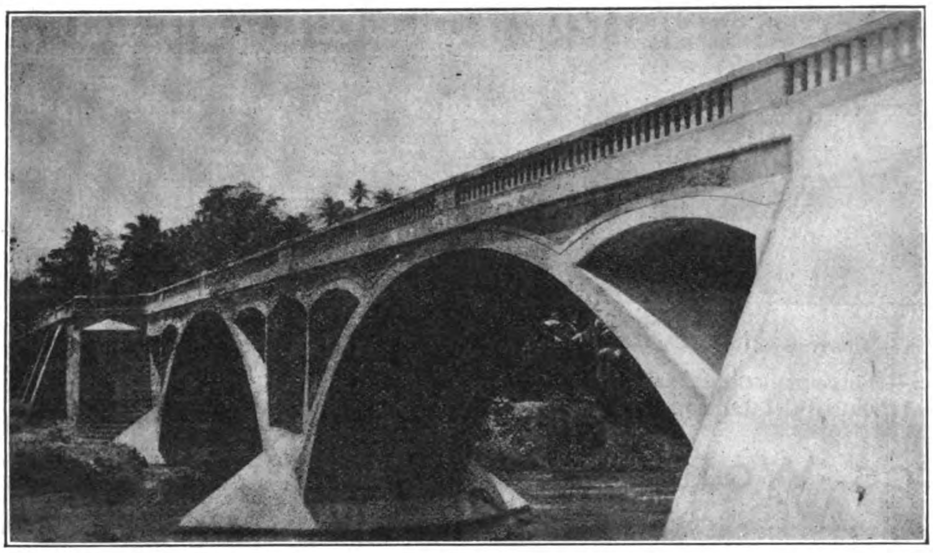


WORKS OF THE GREEN ISLAND CEMENT COMPANY, LIMITED, HONGKONG

Glazed Stoneware

—

House Drain and Sewer Pipes and Fittings In Stock



PARABOLIC ARCH BRIDGE, ALBAY—2500 BARRELS OF GREEN ISLAND CEMENT USED IN ITS CONSTRUCTION

Glazed Paving Bricks and Tiles

—

Fire Bricks and Fire Clay

**Agents:**

WM. H. ANDERSON & CO.
MANILA, P. I.

SHEWAN, TOMES & CO.
SHANGHAI

SHEWAN, TOMES & CO.
JAPAN

TURNER, MORRISON & CO.
CALCUTTA

**Agents:**

GEO. GILLESPIE & CO.
RANGOON

E. SPINNER & CO.
BOMBAY

SHEWAN, TOMES & CO.
TIENTSIN

McALISTER & CO., LTD.
SINGAPORE, PENANG

SANTA CRUZ BRIDGE

# WM. H. ANDERSON & CO.

MANILA, P. I.

IMPORTERS AND EXPORTERS: COMMISSION AGENTS

AGENTS IN THE PHILIPPINES FOR

GREEN ISAND CEMENT COMPANY — HONGKONG ROPE MFG. CO. — FARM AND ROAD WAGONS

LIBBY, McNEILL & LIBBY — SWIFT & COMPANY — BRUNSWICK-BALKE COLLENDER CO.

DIEBOLD SAFES — AERMOTOR COMPANY — LUBRICATING OILS

DEERE IMPLEMENT COMPANY — GLAZED SEWER PIPE — FIRE BRICK, FIRE CLAY — RUBEROID ROOFING

*Use Dragon Brand for Highclass Solid and Enduring Construction*

GENERAL AGENTS FOR CHINA

# *RACINE ACKERMANN & CO.*

*NO. 4 YANG-KING-PANG, SHANGHAI*

**THE CHEE HSIN CEMENT CO., LTD.**

**TANGSHAN PORTLAND CEMENT**

In barrels of 375 lbs. (170 kg.) net

Tangshan Portland Cement manufactured of the best raw material at our new extensive works which have recently been erected and equipped with the newest and most up-to-date machinery, flint-mills, rotary-ovens, etc., etc., is of superior quality and

**EQUAL TO THE BEST EUROPEAN BRANDS**

Awarded Silver Medal at St. Louis' Exposition 1904

*Shanghai Agent:*
*E. WOYAN*
*47 Quai de France*

In bags of 187½ lbs. (85½ kg.) net

Tangshan Portland Cement is universally used throughout North China by Railways, Engineering Works, Mining Companies, Municipalities, etc. Orders of large extent accepted for delivery at short notice.

**CEMENT MOSAIC TILES**
**CEMENT ROOFING TILES**
**CEMENT PAVING TILES**
**CEMENT DRAIN PIPES**
**FIREBRICKS**
**FIRECLAY TILES**
**GROUND FIRECLAY**

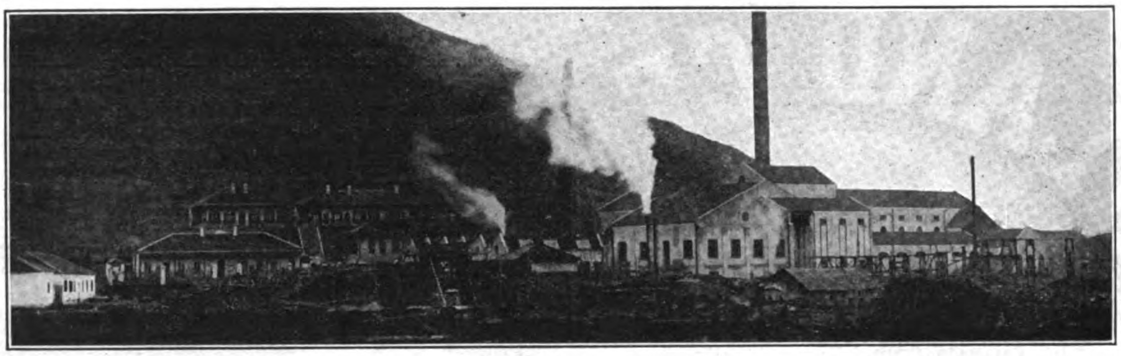
For particulars and prices apply to

**THE CHEE HSIN CEMENT CO., LTD.**

Head Offices:
TIENTSIN

*Hankow Agent:*
*CHING CHONG*





**TAYEH, HUPEH PROVINCE, CHINA**

TELEGRAPH ADDRESS:
**"SHUINEE"**

**SHANGHAI OFFICES:**
**221 NINGPO ROAD**
**TELEPHONE, 3431**

**HANKOW OFFICES:**
**CHINESE BUND, CHONG PING LANE**

# PRIESTMAN BROTHERS, LIMITED

HULL AND
3 LAURENCE POUNTNEY HILL,
CANNON ST., LONDON, E. C.

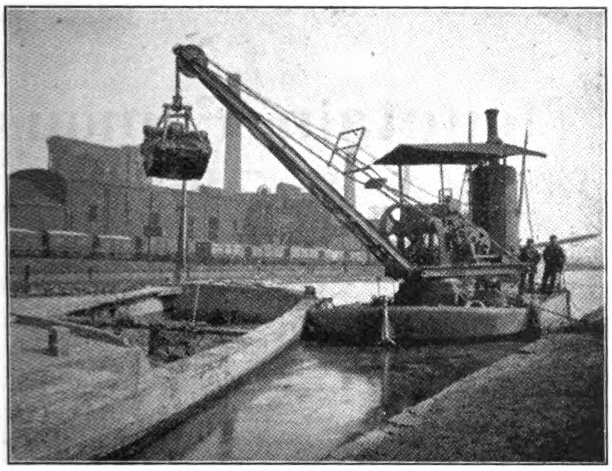
DREDGERS,
EXCAVATORS
AND ELEVATORS

150 DIFFERENT TYPES AND SIZES OF GRABS TO SELECT FROM 1 TO 150 CUBIC FEET CAPACITY

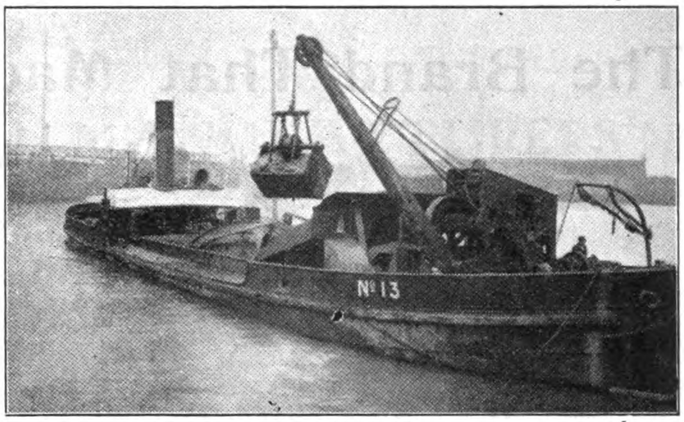
PRICES AND FULL PARTICULARS ON APPLICATION TO

ONE OF FOUR GRAB DREDGERS SUPPLIED TO THE GREAT WESTERN RAILWAY CO.

ONE OF A LARGE NUMBER OF GRABS TAKEN BY MESSRS. S. PEARSON & SON, LTD., CONTRACTORS



ONE OF A NUMBER OF GRAB DREDGERS SUPPLIED TO THE LONDON & NORTH WESTERN RAILWAY COMPANY




ONE OF FIFTEEN GRAB DREDGERS SUPPLIED TO THE LIVERPOOL DOCKS BOARD

## DICKESON, JONES & CO., AGENTS FOR CHINA

---

# International Cold Stores Ltd.

## MANILA, P. I.

Importers and Distributers of Fresh

## Australian and American Meats

Beef, Pork, Lamb, Mutton, Fish, Dairy Products, Vegetables, Fruit, etc.

**Special Attention Given Ships' Supplies : : :**

Cable Address: COLDSTORE

Code: WESTERN UNION

Telephone No. 308 : P. O. Box No. 290

LACK & DAVIS BUILDING

**A. O. Slemmens, Manager**

---

**The United States offers the greatest opportunity** in the world to makers of industrial or denatured alcohol. Those who start this production now are bound to come to great rewards. The field is practically untouched and by starting now, you can have things very much your own way.

A general consideration of the NEW INDUSTRY, including a full description of the distilling apparatus used and the principle involved, also methods of chemical control and disposal of the products, first edition illustrated by seventy-four engravings, 156 pages. This book is cloth bound, it will be sent to any address post paid on receipt of $3.20. Every farm, ranch and merchant needs a 5 gallon Tax-Free denatured alcohol distillery apparatus. Agents price $98.50, a 100 gallon distilling apparatus cost $700.00. We are desirous to establish Far Eastern Agencies and have very good propositions to offer.

**THE UTILIZATION OF WOOD WASTE BY DISTILLATION**

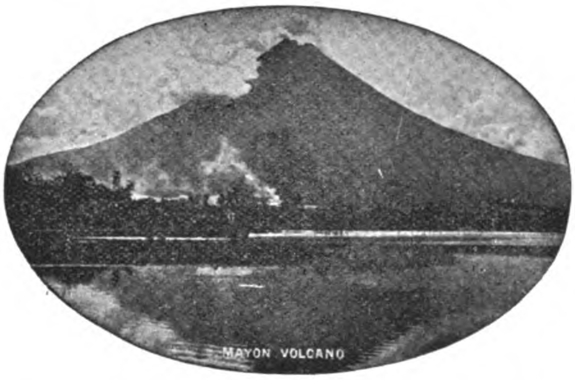
# Wood Waste Distilleries Co.

213-217 St. Clair Ave., N. W. CLEVELAND, OHIO, U. S. A.

# CLARKE'S

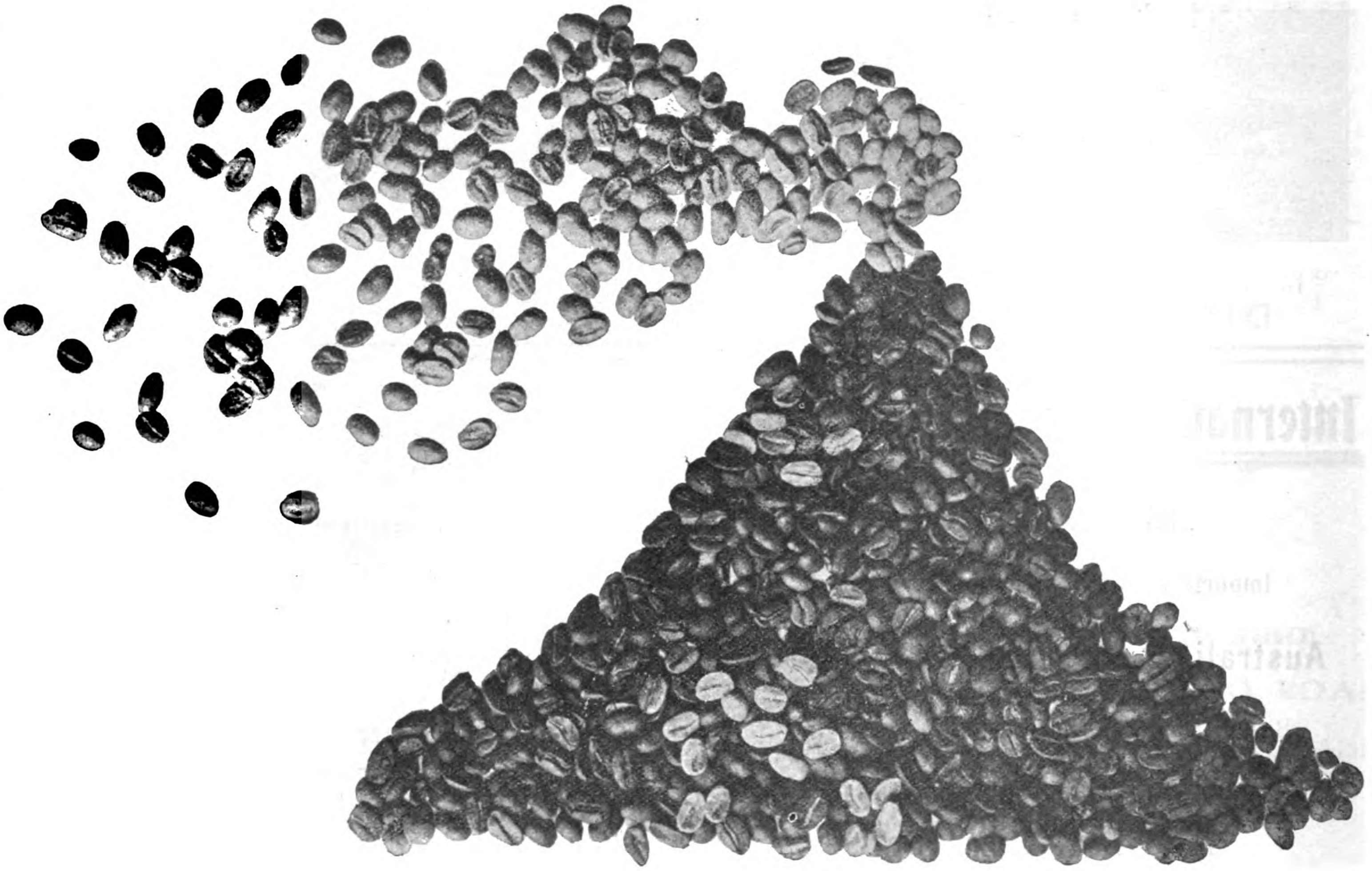
MAYON COFFEE

MANILA PHILIPPINE IS.



The Brand That Made The Mountain Famous


## CLARKE'S MAYON COFFEE

EQUALS "SATISFIED CUSTOMERS"

Once Tried Always Used—Never Refused

| Frank L. Strong | Stuart S. Harvey |
|---|---|
| Cable Address: STRONG | Cable Address: HARVISTON |
| Telephone No. 360 P. O. Box 772 | Telephone No. 360 P. O. Box 277 |

Offices: 34-40 Calle Echague, Manila, P. I.

EXCLUSIVE AGENTS

FOR LEADING

AMERICAN AND EUROPEAN MANUFACTURERS

LEADING SPECIALTIES

Electrical Machinery and Supplies

Saw Mill and Planing Mill Machinery

Locomotives and Railway Equipments

Air Compressors and Pneumatic Tools

Agricultural and Road Making Machinery

Mechanics' Tools, Builders' Hardware, etc., etc.

Steam Engines and Boilers

Kerosene and Gasoline Engines

Ice and Refrigerating Machines

Sugar, Rice and Fibre Machinery

Mining and Hydraulic Machinery

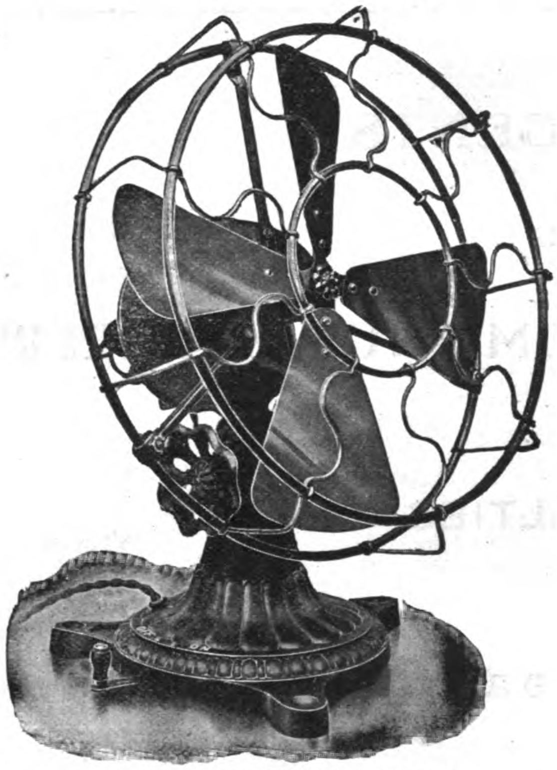
Complete Machine Shop Equipment

SPECIFICATIONS DRAWN ESTIMATES GIVEN

# Shanghai Electric and Asbestos Co., Ltd.

**Removed to new premises on Nanking Road—between the Bund and Szechuen Road, Shanghai**

## Electrical Engineers, Government Contractors, and Agents.



SOLE AGENTS FOR

*Bell's Asbestos Eastern Agency, Ltd.*

*Packings and Special Lubricants*

*Suter Hartmann and Rahtjen's "Red Hand"*

*Anti-Corrosive and Anti-Fouling Paints*

*"Express" Marine Oils*

*Easton Lift Co., Electric Lifts*

*Bowers Rubber Works, San Francisco, Cal.*

*Rubber Goods, Packings, Fire Hose, Mats, etc.*

**Cable Address: "OHM" SHANGHAI**
**Codes: A-1, A. B. C. (5th Edition), Engineering and Western Union**

The oldest established firm in our line in China. We carry the largest and most varied stocks in the Far East. Call and see our showroom

CLASSIFIED HEADINGS

**ELECTRICAL ENGINEERS, ELECTRICAL MACHINERY IMPORTERS, SUNDRY MACHINERY IMPORTERS, PAINT MERCHANTS, OIL MERCHANTS, RUBBER MERCHANTS, FIRE HOSE IMPORTERS, ASBESTOS IMPORTERS, PACKINGS IMPORTERS, ELEVATOR IMPORTERS, ELEVATOR INSTALLATIONS, SHIPS' COMPRADORES, MATTING IMPORTERS.** - - - - - - - - - - - - -

# ROSE, DOWNS & THOMPSON, LTD.

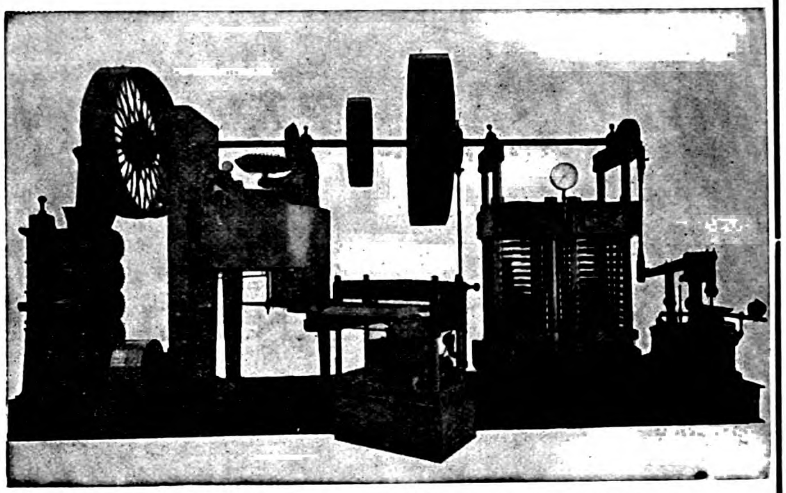
ESTABLISHED 1777

**EASTERN OFFICE: 13 NANKING ROAD, SHANGHAI**

CABLE ADDRESS: "ROSEDOWNS," SHANGHAI

HEAD OFFICE AND WORKS, HULL, ENGLAND

**CONTRACTORS TO HOME, COLONIAL AND FOREIGN GOVERNMENTS**



**OLDEST AND LARGEST MANUFACTURERS IN THE WORLD OF**

## OIL MILL MACHINERY

SUITABLE FOR THE TREATMENT OF EVERY VARIETY OF OIL-BEARING SEED AND NUT; ON THE MOST EFFICIENT AND MODERN PROCESSES

OVER 4,000,000 TONS OF SEEDS AND NUTS CRUSHED ANNUALLY IN MACHINERY MANUFACTURED BY US

SIMPLEST
CHEAPEST
BEST

AS SUPPLIED TO ALL THE PRINCIPAL GOVERNMENTS

FOR ALL CLASSES OF WORK ASHORE AND AFLOAT

SOLE MAKERS OF

## The "Kingston" Grab Dredger and Excavator

POSSESSES IMPORTANT ADVANTAGES OVER ALL OTHER SYSTEMS

FOR DEEPENING RIVERS, DOCKS, CANALS, AND HARBOURS, EXCAVATING CLAY AND SAND, LIFTING ROCKS, DISCHARGING GRAIN, ETC., ETC.

**CATALOGUE, ESTIMATES AND FULL INFORMATION ON APPLICATION**

TELEPHONE 1108.

TELEGRAPHIC ADDRESS: "HARDWARE, SHANGHAI."

HEATING, LIGHTING AND SANITARY ENGINEERS.

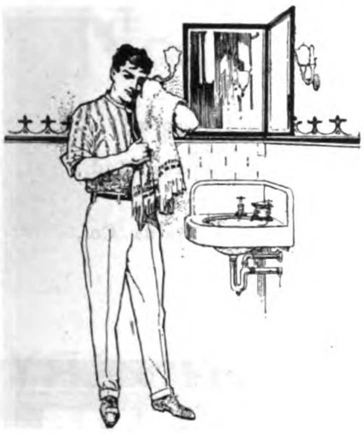
# GORDON & COMPANY

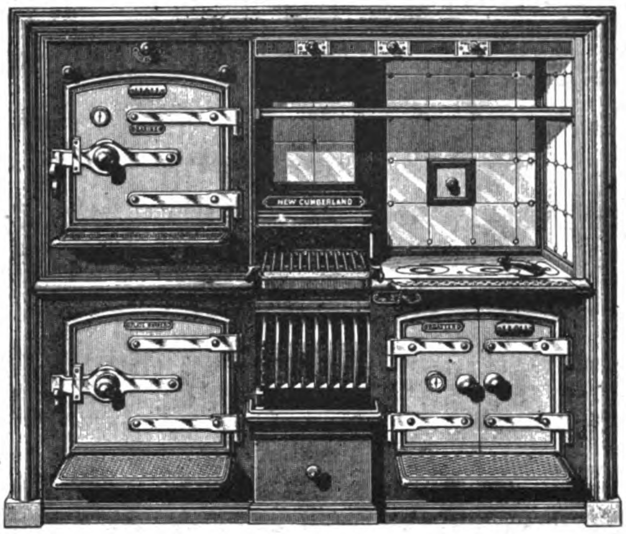
110 SZECHUEN ROAD, SHANGHAI

**MODERN BATH-ROOM LUXURIES**

**HOT AND COLD WATER AND SANITARY FITTINGS**

**OUTPORT WORK A SPECIALTY**





NEW CUMBERLAND RANGE

**STEAM OR HOT WATER HEATING PLANTS**

**AGENTS FOR THE CARRON COMPANY OF FALKIRK, SCOTLAND**

**STOVES AND FIRE GRATES**

# SAN MIGUEL BREWERY

MANILA, P. I.

*The Largest and Most Modern* *Brewery*

IN THE FAR EAST

*Get into the Habit of Asking for* *San Miguel*

IT IS ABSOLUTELY PURE

Containing No Trace of Injurious Chemicals

KOBE
CANTON
HONGKONG
SHANGHAI
TIENTSIN
NEW YORK

# SHEWAN, TOMES & Co

LONDON
OFFICE
27
LEADENHALL
STREET
LONDON, E.C.

**IMPORT AND EXPORT MERCHANDISE, COMMISSION AND SHIPPING AGENTS**

## London—Hongkong—Canton—Shanghai—Tientsin—Kobe—New York

**Telegraphic Address:**
**"KEECHONG," All Branches.**

**Hongkong Post Office Box: No. 131 B**
**Shanghai Post Office Box: No. 84**

## General Managers of

The China Light & Power Co., Ltd., Hongkong
The Green Island Cement Co., Ltd., Hongkong
The Hongkong Rope Mfg. Co., Ltd., Hongkong
The China Provident Loan & Mortgage Co., Ltd., Hongkong
The Whangpoo Wharf and Godown Co., Ltd., Shanghai
The China and Manila Steamship Co., Ltd., Hongkong
The Canton Land Co., Ltd.
Equitable Life Assurance Society of the United States, Hongkong

## Agents for

American Asiatic Steamship Co.
American Manchuria Line, Hongkong
J. Marke Wood's Line of Steamers
The Yangtsze Valley Company, Ltd.
The Electric Traction Co. of Hongkong, Ltd.
The American China Development Co.
The Yangtsze Insurance Association, Ltd., Hongkong
World Marine Insurance Co., Hongkong
Reliance Marine Insurance Co., Hongkong
Union Marine Insurance Co., Ltd., Hongkong
Batavia Sea and Fire Insurance Co., Hongkong
Glen Line of Steamers, Hongkong
The British Dominions Marine Insurance Co., Ltd., Hongkong
North British & Mercantile Insurance Co., Hongkong
Law Union & Crown Insurance Co., Hongkong
Yorkshire Fire and Life Insurance Co., Hongkong
Fireman's Fund Insurance Co. (Fire only), Hongkong
Insurance Company of North America, Hongkong
The Chinese Engineering and Mining Company, Ltd., Hongkong
Shanghai Pulp and Paper Co., Ltd., Hongkong
The International Sleeping Car and Express Trains Co., Hongkong
(Trans-Siberian Railway), Hongkong
Tacoma Grain Co.
Birkmyre Bros.

# MACHINERY DEPARTMENT

## Shanghai, Telephone No. 3487

**ELECTRIC LIGHT & POWER PLANTS. RAILWAY, MINING, MILL AND INDUSTRIAL PLANTS AND EQUIPMENT; SAFETY WATER-TUBE BOILERS; STEAM TURBINES; PUMPS, GAS ENGINES, PRODUCERS, ETC. ENGINEERING AND ELECTRICAL SUPPLIES**

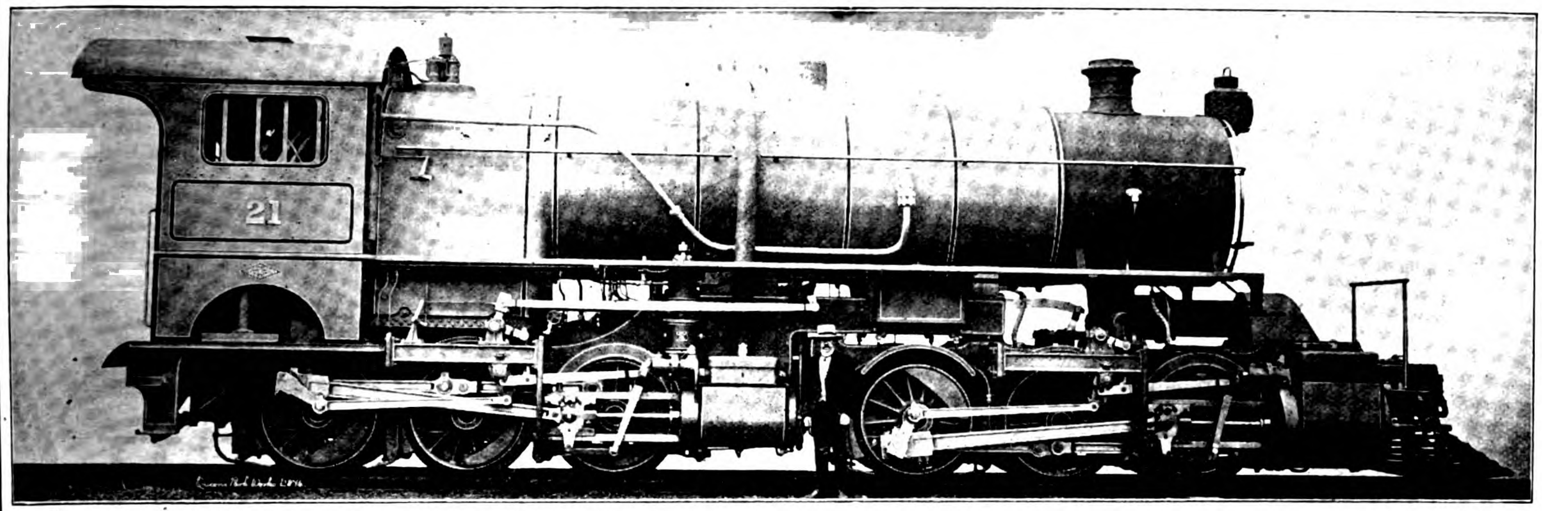
## 上海英商新旗昌洋行機器處廣告

本行樓子房現設江西路六號 電話三四八七號

本行經理各種機器如紡織碾米榨油磨麪造紙開礦墾荒抽水挖泥大小火輪全副引擎鍋爐及火車頭客車貨車鐵路材料並自來水一切物件其餘鋸木車鑽刨床各式大小引擎鍋爐及磨電機發動機煤氣引擎發煤氣機以及得律風電燈電氣應用一切另件等具色色俱全均係外洋著名廠家特別精造新式玲瓏堅固但各項名目繁多未便盡載倘承賜顧或蒙函詢當即竭誠詳細奉答價亦格外克已以廣招徠尚祈惠臨方知言之不虛謬也

**SOLE REPRESENTATIVES IN CHINA FOR**

British Insulated & Helsby Cables Ltd. (Hongkong and S. China).
British Westinghouse Electric & Manufacturing Co., Ltd.
Browett Lindley & Co., Ltd., England.
Barber Asphalt Paving Co., U. S. A.
Fraser & Chalmers Ltd., England.
J. G. Brill Co.
Lima Locomotive & Machine Co., U. S. A.
The London Phosphor, Copper & Bronze Co.
Manning, Maxwell & Moore, Inc., U. S. A.
Power Pulley Co., Ltd., England.
Power Gas Corporation Ltd., England, (except bituminous plants)
Ransomes, Sims & Jefferies, Ltd., England.
Rhodes Motors Ltd., England
Sullivan Machinery Co., U. S. A., South China.
Turner Bros. Ltd., England, North China.
Wason Manufacturing Co., U. S. A.
The Wolf Co., U. S. A.
Wolverine Motor Works, U. S. A.
Water Tube Boiler Co., Ltd., England



MALLET TYPE ENGINE FOR THE PEKING-KALGAN LINE MADE BY THE NORTH BRITISH LOCOMOTIVE CO.

# North British Locomotive Co., Ltd.

| HYDE PARK WORKS | QUEEN'S PARK WORKS | ATLAS WORKS |
|---|---|---|
| (Late NEILSON, REID & CO.) | (Late DUBS & CO.) | (Late SHARP, STEWART & CO., Ltd.) |

**Head Office and Administration Building: SPRINGBURN, GLASGOW**

LONDON OFFICE:—17, VICTORIA STREET, WESTMINSTER, S. W.

**Telegrams: LOCO., GLASGOW**

BUILDERS OF ALL KINDS OF

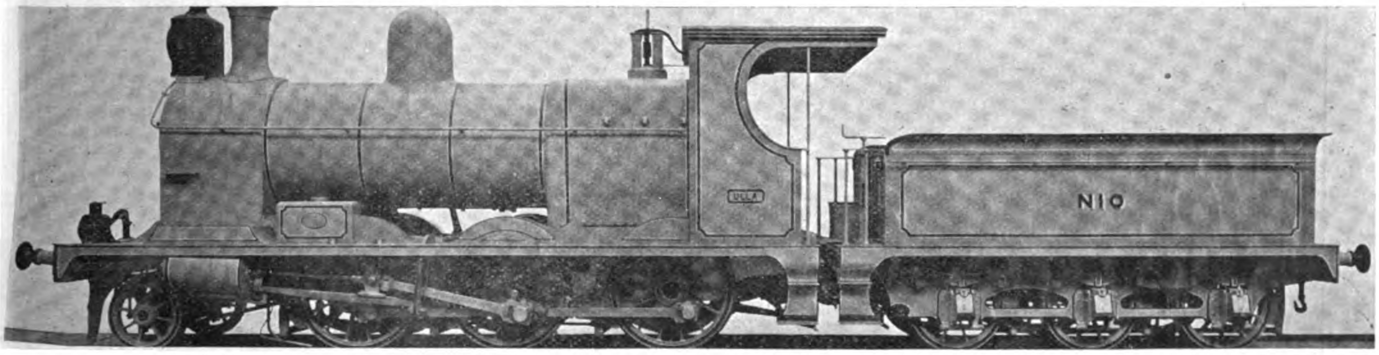
## Locomotive Engines and Tenders Suitable for any Gauge of Railway

| ANNUAL CAPACITY: | WORKSHOPS EQUIPMENT: | OUTPUT NOW EXCEEDS: |
|---|---|---|
| 700 | 8000 | 19,000 |
| MAIN LINE LOCOMOTIVES | MEN | LOCOMOTIVES |

## AGENTS IN THE EAST

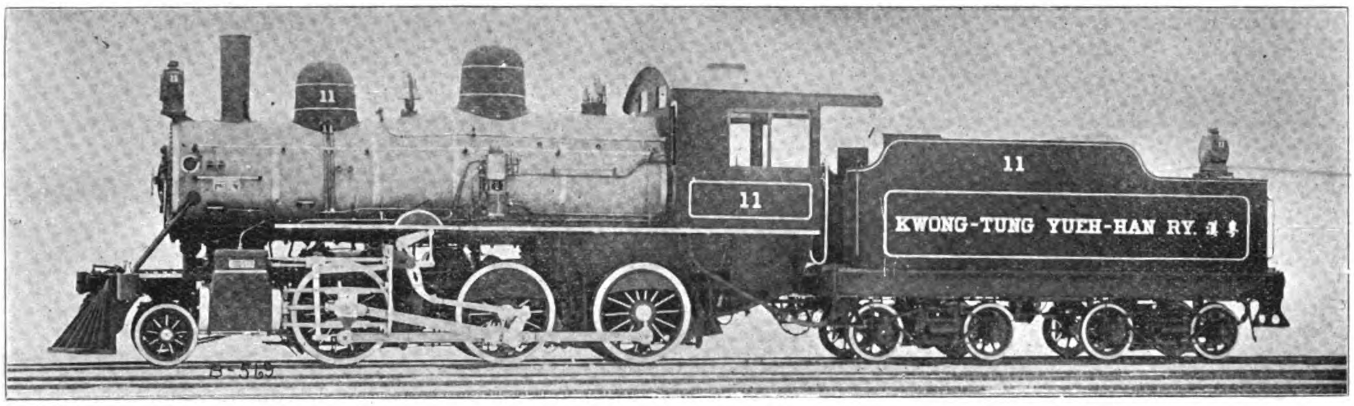
**China: Messrs. Jardine Matheson & Co., Ltd., Hongkong and China**

**Japan and Manchuria: Messrs. Okura & Co., Tokyo**



TYPE OF NORTH BRITISH LOCOMOTIVE SUPPLIED TO THE TIENTSIN-PUKOW—SOUTHERN SECTION

## THE LARGEST LOCOMOTIVE WORKS IN EUROPE




# MITSUI BUSSAN KAISHA

ENGINEERING DEPARTMENT

Tokyo, Hongkong, Shanghai, Tientsin, Newchwang, Canton, Hankow, Dairen, Mukden, Changchun, etc.

**Locomotives, Passenger Coaches, Freight Cars, Bridges, Rails, etc.**

**Railways equipped throughout with the most modern Standard Appliances**

RAILWAYS IN CHINA FULLY OR PARTIALLY EQUIPPED WITH MATERIALS SUPPLIED BY THE MITSUI BUSSAN KAISHA

SOUTH MANCHURIA RAILWAY; ANTUNG-MUKDEN LINE; KIANGSI RAILWAY; PEKING-HANKOW RAILWAY; KIANGSU RAILWAY; CHEKIANG RAILWAY; SWATOW-CHAOCHOWFU RAILWAY; ETC.

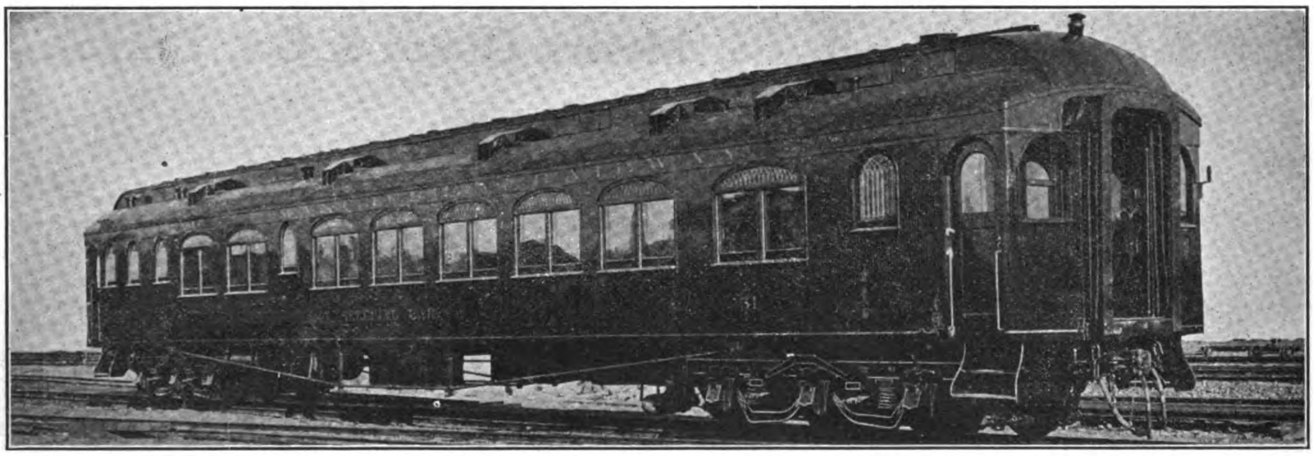
AGENTS IN JAPAN, KOREA, MANCHURIA AND CHINA FOR

American Locomotive Co., Gould Coupler Co., The Pullman Co., Safety Car Heating & Lighting Co., Jones Laughlin Steel Co., Union Switch & Signal Co., etc.

AGENTS FOR JAPAN AND KOREA:

The Pyle National Headlight Co.

RAILWAY MACHINE SHOPS FITTED COMPLETE WITH THE MOST APPROVED TYPES OF SPECIAL MACHINE TOOLS.



PULLMAN SLEEPING CAR ON THE SOUTH MANCHURIA RAILWAY

## Supplied by the MITSUI BUSSAN KAISHA

# EASTERN ENGINEERING COMPANY

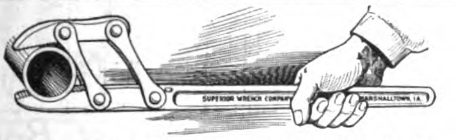
## ARCHITECTS AND ENGINEERS

Special attention paid to Reinforced Concrete Designing : : : : : : :

**Correspondence Solicited**

Rooms 10 and 11 LACK & DAVIS Bldg. Manila, P. I.

## IMPROVED AUTOMATIC WRENCH




Self-adjusting, works automatically on pipes, rods and nuts. Strongest, simplest and handiest wrench ever made. Grips instantly, the harder the pull the tighter the grip. Especially suitable for Machine shops, Garages and Dock Yards. Made in the following sizes:

| | | | | |
|---|---|---|---|---|
| 6 in. | opens to | $\frac{7}{8}$ in. | Price | 2s. |
| 9 in. | " | $1\frac{1}{8}$ in. | " | 3s. |
| 12 in. | " | $1\frac{1}{2}$ in. | " | 4s. |
| 16 in. | " | 2 in. | " | 5s. |
| 20 in. | " | $2\frac{1}{2}$ in. | " | 6s. |

Sample wrenches sent prepaid on receipt of Money order.

IMPORTERS, DEALERS and AGENTS. The "Superior Wrench" is in use throughout the United States and in many foreign countries. Write for our special offer and printed matter.

SUPERIOR WRENCH CO., Marshalltown, Iowa, U. S. A.

# A High Grade Dry Cell

25 AMPERES OVER $1\frac{1}{2}$ VOLTS

*Guaranteed*

Specially adapted to cope with Oriental Climatic Conditions.

**Replaces All Others Wherever Used**

# SOLIGNUM

THE RAVAGES OF THE **WHITE ANT**, DECAY, FUNGUS AND DRY ROT DESTROY PROPERTY TO THE VALUE OF MILLIONS YEARLY

THE ONLY SURE AND RELIABLE PROTECTION IS

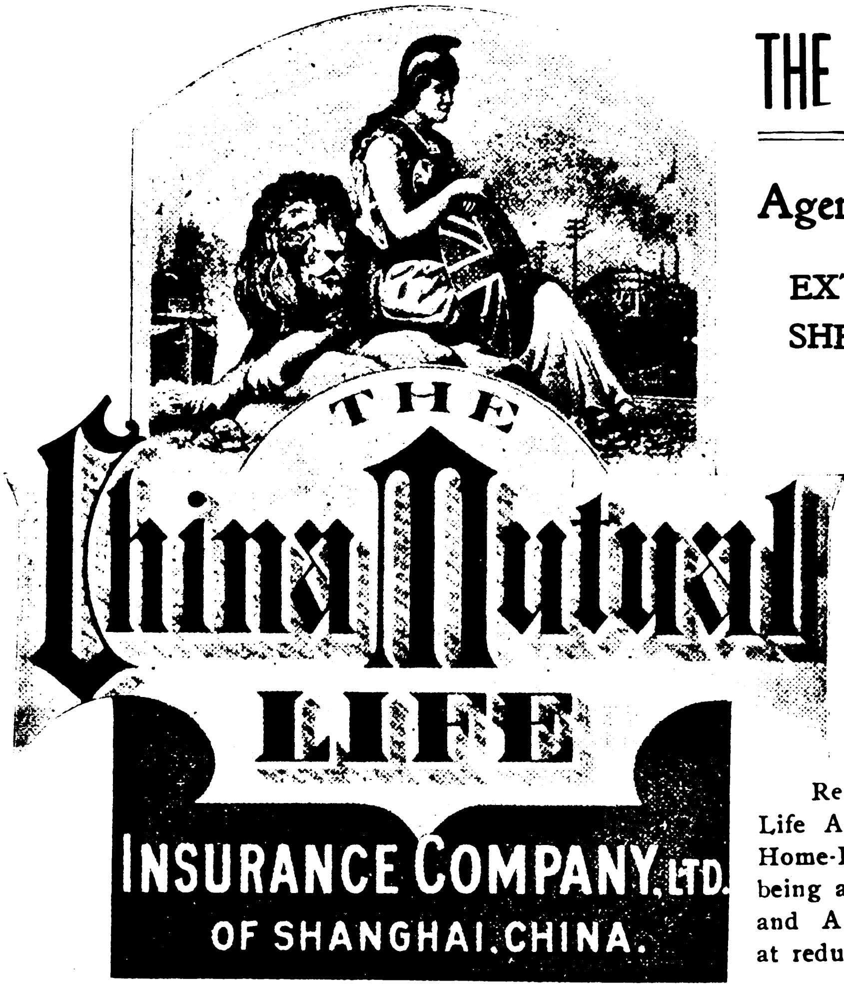
# "SOLIGNUM"

CAN BE APPLIED IN MANY SHADES OF COLOR TO STONE, WOOD OR BRICKWORK. SOLD IN 5 AND 10 GALLON DRUMS AND 40 GALLON CASKS

# PROTECTS

*For Sale by* **THE CHINA IMPORT EXPORT LUMBER CO., Ltd.** SHANGHAI, HANKOW, TIENTSIN, TSINGTAU

*Hongkong and Canton:* SIEMSSEN & CO. -:- *Foochow:* SIEMSSEN & KROHN -:- *Amoy:* PASEDAG & CO




# THE PREMIER COMPANY OF THE EAST

## Agencies from London to Manchuria

EXTRACT FROM 12th ANNUAL REPORT
SHEWING A RECORD PROGRESS : : :

| | |
|---|---|
| Insurance in Force | $37,855,885 |
| Assets | $ 8,415,250 |
| Income | $ 3,566,559 |
| Total funds | $ 8,216,812 |

*Low Rates!*
*Unconditional Policy!*
*Largest Bonuses!*

Registered under Hongkong Ordinances and under the Life Assurance Companies' Acts, England; and offers its Home-Returning policyholders the Double Advantage of being able to pay their Premiums to the Company's London and American Agents, Messrs. Thomas Cook and Sons, at reduced rates.

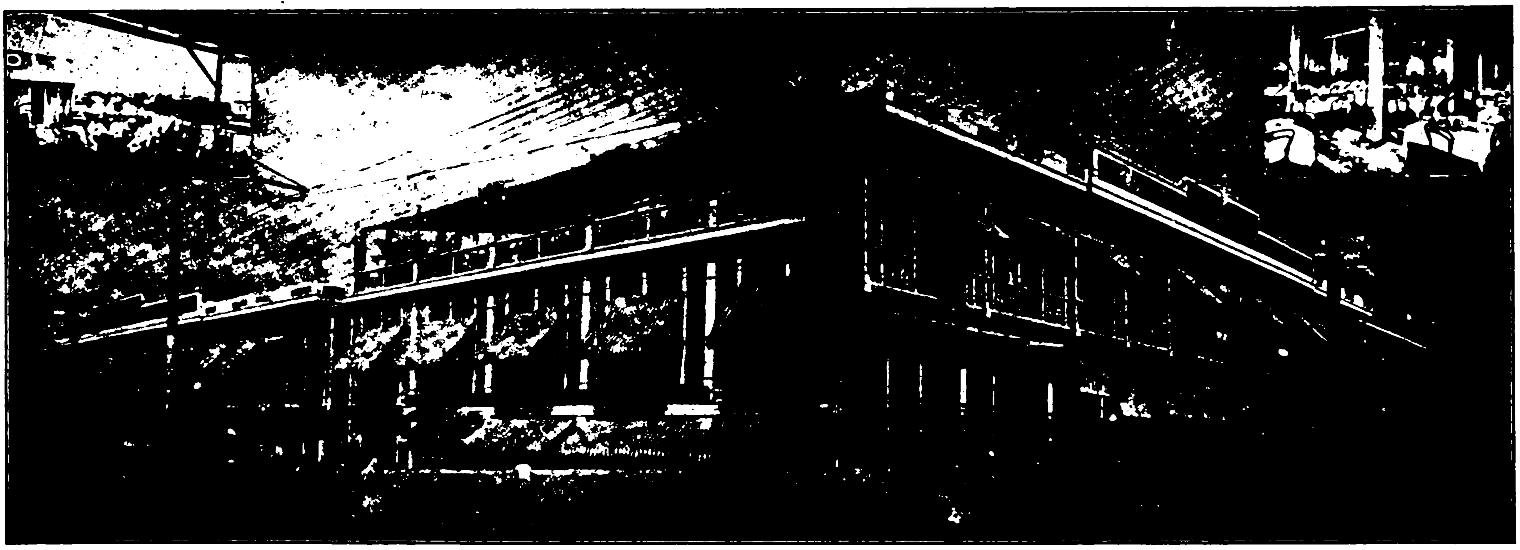
# NEW METROPOLE HOTEL

CABLE ADDRESS: "METROPOLE" MANILA

## MANILA, P. I.

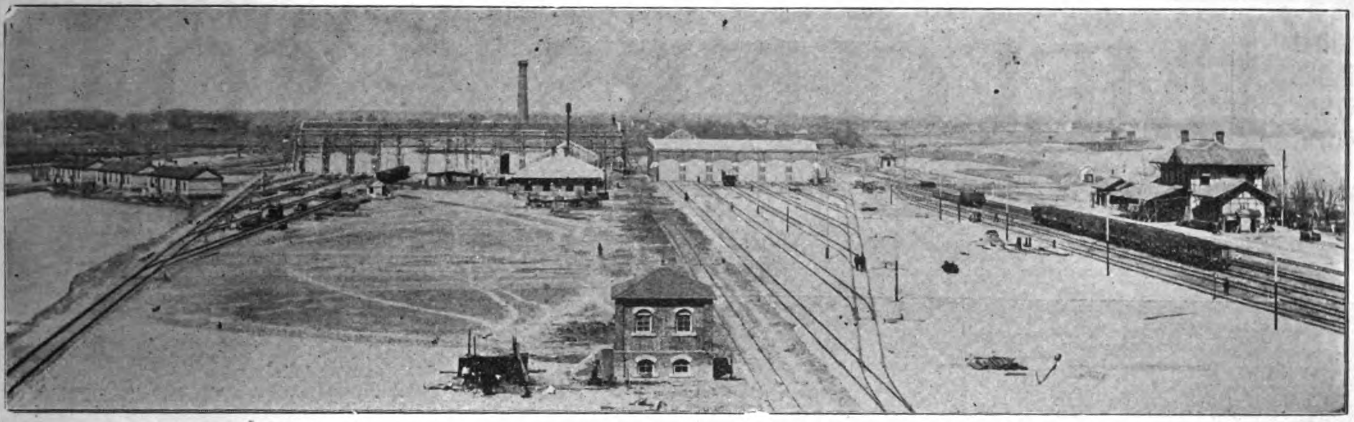
AMERICAN AND EUROPEAN PLAN.

THIS MAGNIFICENT HOTEL HAS JUST BEEN COMPLETED AND IS FURNISHED IN THE MOST UP-TO-DATE MANNER. COMMODIOUS, WELL-AIRED, LIGHTED, AND SPACIOUS BEDROOMS



NEW METROPOLE HOTEL SHOWING ROOF GARDEN

¶ Private Dining Rooms for Banquets, Wedding Parties, etc.
¶ Roof Garden from which a Panorama of the Pasig River and Manila may be enjoyed.
¶ Centrally Located. Modern and Up-to-date—Cool and Well Ventilated—Electric Fans in all rooms—Excellent Service.

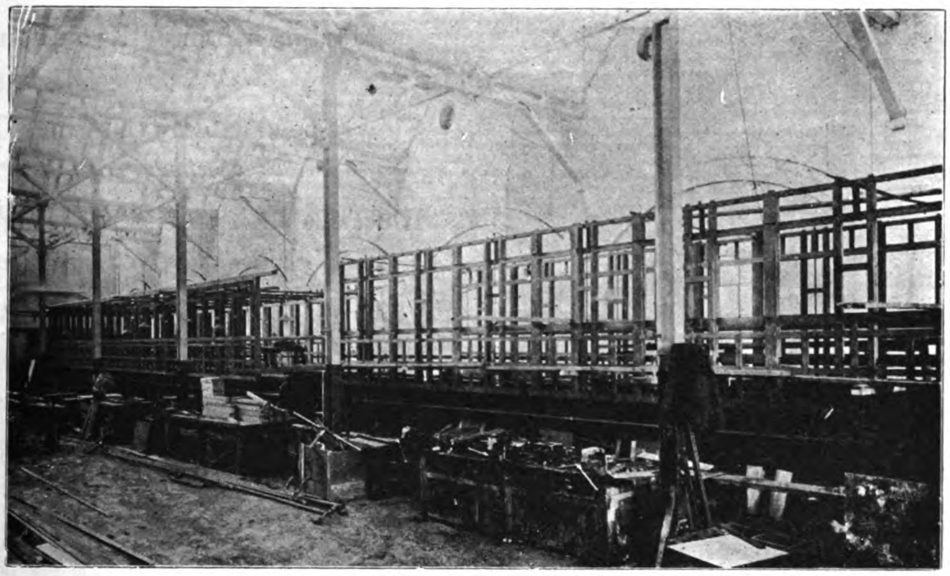


# WOOSUNG CAR SHOPS

OF THE

## SHANGHAI -:- NANKING -:- RAILWAY

LOCATED AT WOOSUNG AT ENTRANCE TO WHANGPOO RIVER, SHANGHAI. DEEP WATER WHARF WITH EVERY FACILITY FOR HANDLING HEAVY MATERIAL.



VIEW OF ERECTING SHOP

THESE SHOPS ARE FULLY EQUIPPED WITH THE MOST MODERN PLANT AND APPLIANCES FOR THE CONSTRUCTION OF CAR BODIES AND SETTING UP CAR PARTS ORDERED FROM ABROAD, ALL UNDER EXPERT SUPERVISION : : : : : : : : : : : : : : : : : : : : : : : : :

CARS FOR THE NANKING CITY RAILWAY, KIANGSU RAILWAY AND THE ANHWEI RAILWAYS WERE SET UP AND FINISHED AT THESE WORKS

CORRESPONDENCE WITH OTHER RAILWAY COMPANIES SOLICITED

## SHANGHAI NANKING RAILWAY

Managing Director
TAOTAI CHUNG MUN-YEW

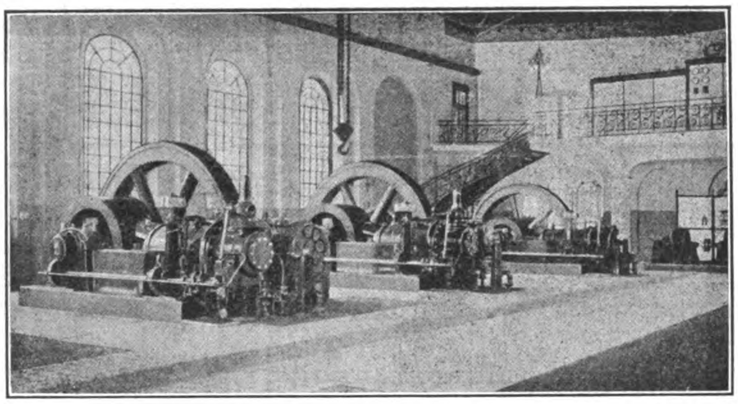
General Manager
A. W. U. POPE

SHANGHAI
HONGKONG
CANTON
HANKOW

# MELCHERS & CO.

BREMEN
TIENTSIN
ICHANG
CHUNGKING

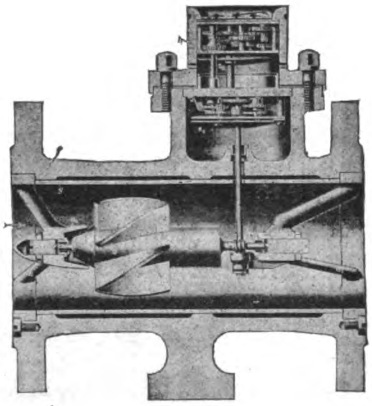
*Cable Address:* *MELCHERS.*

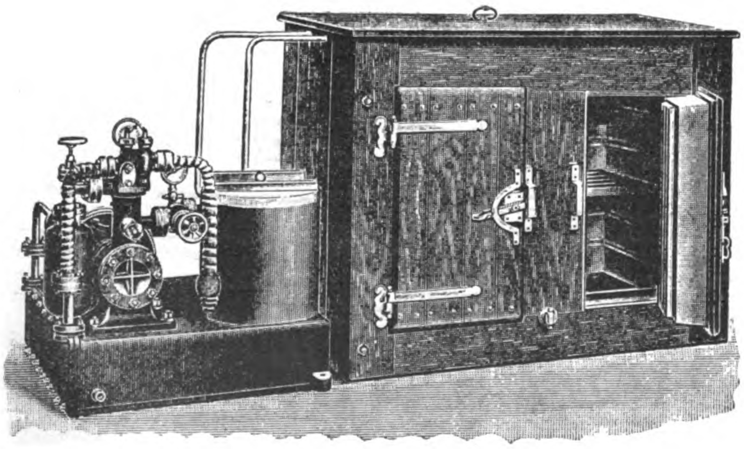


ELECTRIC POWER STATION WITH 3,400 HP. KOERTING'S GAS ENGINES SUCTION GAS PLANTS UP TO 500 HP. FOR ALL FUELS

**Waterworks** Designing and Construction. Pumps—Pipes.
*Carl Francke, Bremen.*

**Watermeters.** Wet running Dry running and Woltmann System.
*Brablauer Metallgieperei, Breslau.*





ICE-MAKING AND REFRIGERATING PLANTS

from the smallest to the largest capacities. Small Ice-making and Refrigerating Plants for Hotels, Hospitals, Private Houses "System Ziegler." Safe—Reliable—Simple.

## *General Agents for:*

High Speed Steam Engines "Roland"
Steam Turbines System "Zoelly"
Ship machinery, as Winches, Pumps, Engines
*Norddeutsche Maschinen & Armaturen Fabrik G. m. b. H. Bremen*

Diesel Motors, Gas Engines, Suction Gas Plants
Koerting's Injectors, Ejectors, Heating Plants
*Gebr. Koerting, A. G. Koertingsdorf/Hannover*

Watertube Boilers, System Garbe, Marine Boilers
*Duerr & Co., Ratingen*

Dredgers for Harbour and River Work, Barges
Steam Tugs, Gold Dredgers, Hoppers
*Werf Conrad, Haarlem*

Marine Motors "Kromhout," Motor Boats
*Gebr. Goedkoop, Amsterdam*

Slow Speed Steam Engines, Condensing Plants
*Maschinenbau Anstalt A. G. Goerlitz*

Electrical Fittings, "Bergmann" Tubes, Meters
*Bergmann Electricitaets Werke, A. G. Berlin*

Electric Cables & Wires, Telephone & Telegraph Wires
*Dr. Cassierer, Charlottenburg*

Electric Fans, Small Motors, X Ray Apparatus
*Dr. Max Levy, Berlin*

Telephones, Central Stations, Bells
*Telephonfabrik vorm. F. Berliner, Hannover*

Textile Machinery, Bleaching & Dyeing
Finishing & Printing Plants for Cotton, Linen, Wool
*Fr. Gebauer, Berlin*

Ice-making & Refrigerating Plants, Centrifugal.
*Leopold Ziegler, Berlin*

Wood-working Machinery, *Teichert & Sohn*

"Atlas" Cranes, Electric Cranes, Differential Blocks
*Eduard Weiler, Berlin*

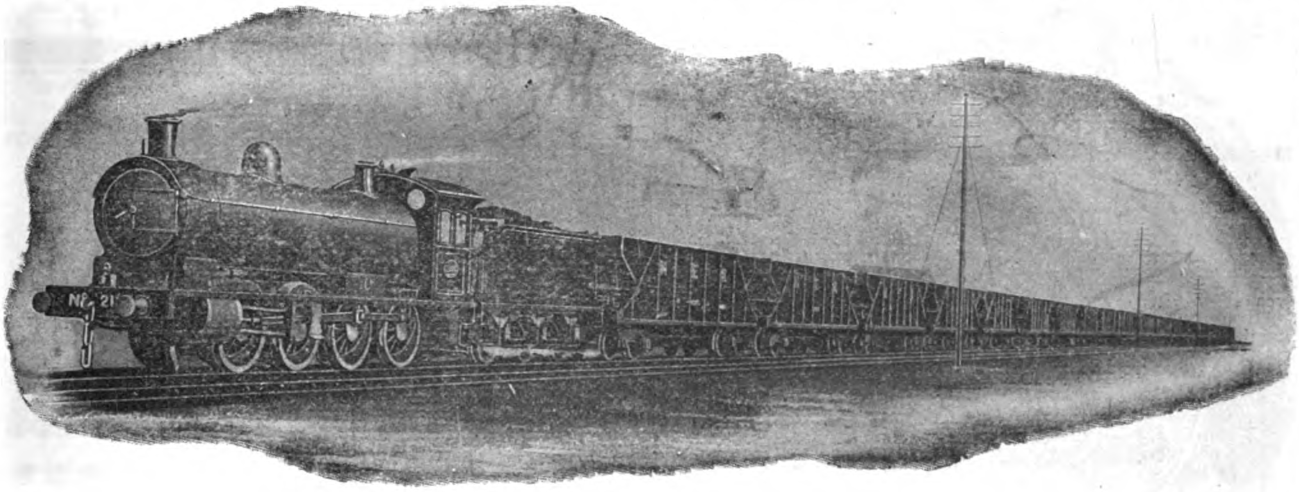
Steel Constructions, Steel Bridges, etc.
*Louis Eilers, Hannover*

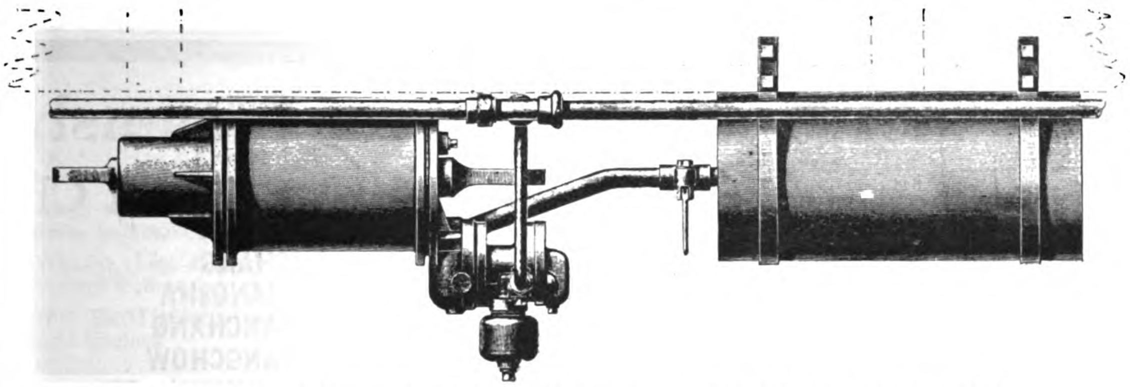
Watermeters, Woltmann Meters
*Bresslauer Metallgiesserei, Breslau*

# THE WESTINGHOUSE BRAKE

**N. E. R. Goods Train fitted with the Westinghouse Brake and Friction Draft Gear.**

**STANDARD ON MORE RAILWAYS THAN ANY OTHER BRAKE**





APPLICATION OF IMPROVED TRIPLE VALVE TO CHINESE RAIWAY CARRIAGES OR WAGONS

**THE 3½" IMPROVED WESTINGHOUSE TRIPLE VALVE: SIMPLE IN CONSTRUCTION AND ESPECIALLY DESIGNED TO MEET THE REQUIREMENTS OF FAR EASTERN RAILWAYS**

Manufactured and furnished solely by

**The Westinghouse Brake Co., Ltd.**

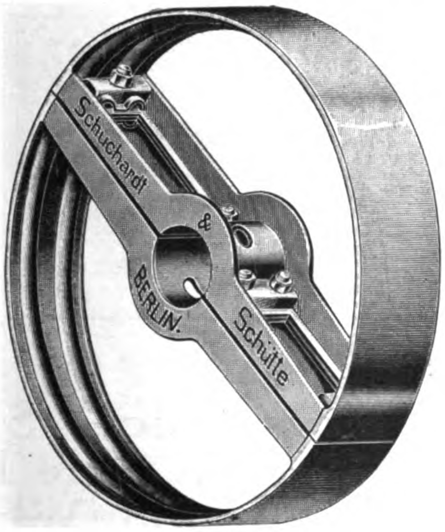
London

**JARDINE MATHESON & CO., LTD.**

**Sole Agents for China**

## SCHUCHARDT & SCHUTTE

BERLIN LONDON NEW YORK




ABSOLUTELY RIGID

NO BREAKAGE NO WARPING.

FULL ASSORTMENT OF SIZES CARRIED IN STOCK BY:

TAKATA & CO., TOKYO

SHANGHAI MACHINE CO., SHANGHAI AND HANKOW.

GERMANN & CO., MANILA.

HOWARTH ERSKINE & CO., LTD., BANGKOK.

MAINTZ & CO., BATAVIA AND SOERABAYA.

## J. G. WHITE & COMPANY, Inc.

**ENGINEERS**
**CONTRACTORS**
**MANAGERS**

Developers of Properties and of Natural Resources

43 EXCHANGE PLACE, NEW YORK, N. Y.
Alaska Commercial Bldg., San Francisco, Cal.
First National Bank Bldg., Chicago, Ill.

***London Correspondents:***

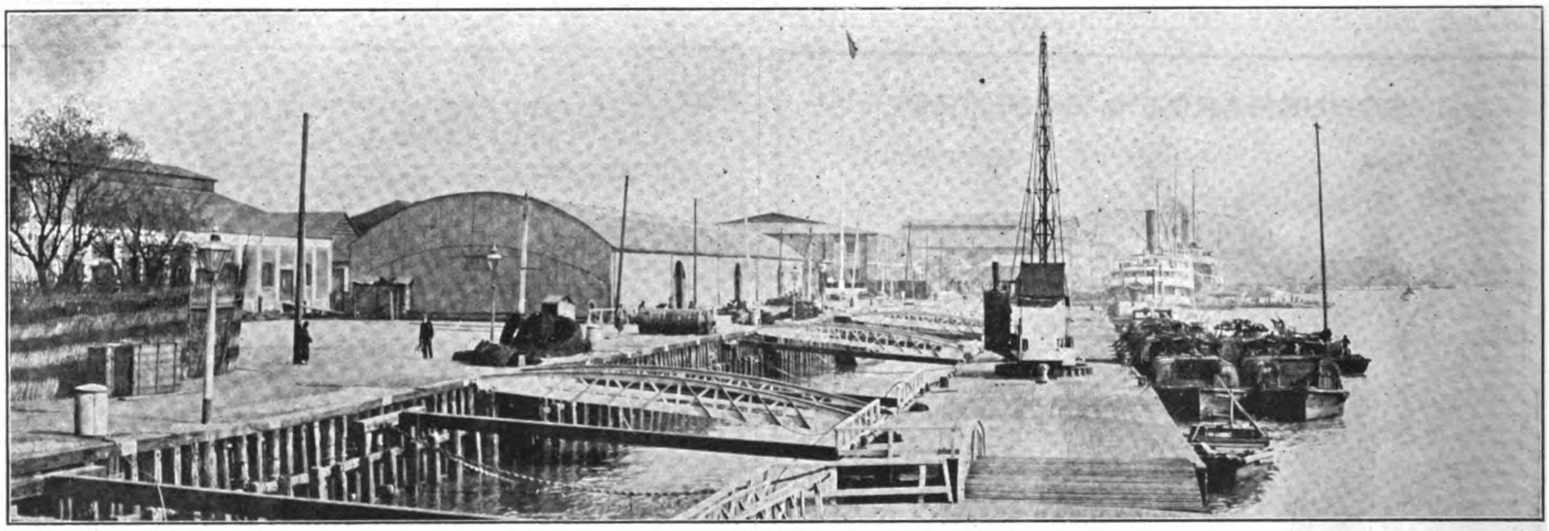
**J. G. WHITE & COMPANY, Ltd.**

9 CLOAK LANE, E. C.

## Operating Coast and River Steamships

## Between Shanghai and all the Principal Ports of China

| | | | |
|---|---|---|---|
| SHANGHAI | AMOY | NANKING | ICHANG |
| CHEFOO | SWATOW | WUHU | CHANGSHA |
| TIENTSIN | HONGKONG | KIUKIANG | NANCHANG |
| NEWCHWANG | CANTON | HANKOW | HANGCHOW |
| FOOCHOW | CHINKIANG | SHASI | SOOCHOW, ETC. |



VIEW OF LOWER HONGKEW WHARVES

## Operating the Most Extensive and Economical System of Wharves and Warehouses in Shanghai. The Lower Hongkew, Central, Eastern, and Yangkadoo Wharves Possess Every Facility for Quick and Economical Dispatch.

GOODS FROM ANY PART OF THE WORLD MAY BE CONSIGNED TO OUR BONDED WAREHOUSES, AND WILL BE DISCHARGED AND STORED AT LOWEST RATES, SUBJECT TO DELIVERY AT ANY TIME TO AUTHORIZED PARTIES

**H. E. TAOTAI M. Y. CHUNG**
MANAGING DIRECTOR
NO. — BUND

**THOMAS H. HARRIS**
GENERAL MANAGER
LOWER HONGKEW WHARVES

CABLE ADDRESS:
"BRIMAL"
SHANGHAI

CODES:
A. B. C. 5TH ED.
ENGINEERING
2ND EDITION
WESTERN UNION

# BRIGHTEN, MALCOLM & CO., LTD.

8 KIUKIANG ROAD
SHANGHAI

TELEPHONE
NO. 2794

**ENGINEERS AND CONTRACTORS**
SOLE AGENTS IN CHINA FOR

## Callender's Cable & Construction Co., Ltd.

MANUFACTURERS OF ALL CLASSES OF ELECTRIC CABLE

SPECIFICATIONS DRAWN UP AND ESTIMATES GIVEN FOR ALL CLASSES OF ENGINEERING WORK -:- -:- -:- -:- -:- -:- -:- SPECIALISTS IN ELECTRIC LIGHT AND POWER PLANTS, LIGHT ELECTRIC RAILWAYS AND TRAMWAYS AND ELECTRIC LIFTS -:- -:- -:- -:- -:- -:- -:-

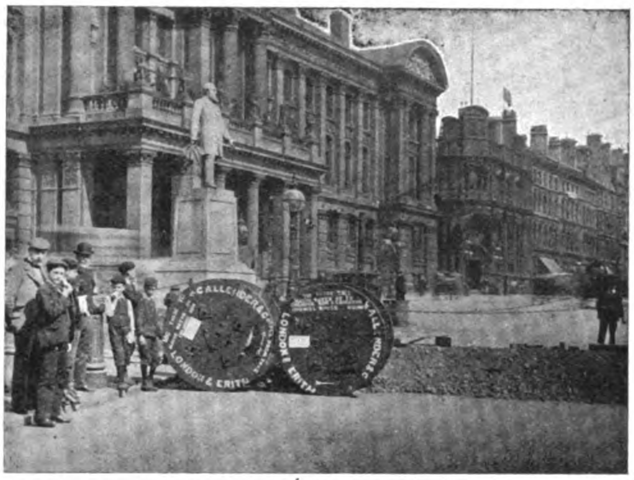
**Sole Agents**

FERRANTI, Ltd., Electric Meters & Switch Gear.

RHODES MOTORS, Ltd., Electric Dynamos & Motors.

CRYSELCO, Ltd., Carbon & Metallic Filament Lamps.

PETER BROTHERHOOD, Ltd., High Speed Engines.



LAYING CALLENDER MAINS, WELLINGTON, NEW ZEALAND

TENDERS SUBMITTED FOR STEAM RAILWAY MACHINERY AND PLANT -:- -:- -:- -:- -:- -:- LOCOMOTIVES, RAILS, SLEEPERS -:- -:- -:- -:- -:- -:- -:- -:- PASSENGER AND FREIGHT CARS, ETC. -:- -:- -:- -:- -:- -:- MACHINE TOOLS OF ALL DESCRIPTIONS -:- -:- -:- -:- -:-

**Sole Agents**

J. W. BROOK & CO., Ltd., Motor Cars and Boats.

MELDRUM BROS., Automatic Stokers

BECKFLAME LAMP CO., Ltd., Arc Lamps.

HAYWARD TYLER CO., Ltd., Hydraulic Machinery.

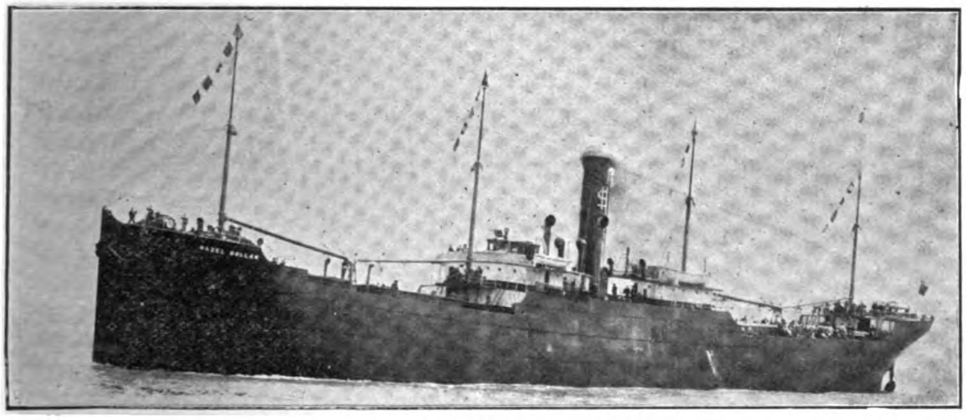
# THE ROBERT DOLLAR CO.

HEAD OFFICE:
160 California St., San Francisco, Cal.

CHINA OFFICE:
13 Nanking Road, Shanghai

## Mills at Tacoma, Wash., and Portland, Ore., U. S. A.

STEAMERS
BESSIE DOLLAR - - - - - - - HAZEL DOLLAR
STANLEY DOLLAR - - - - - - - M. S. DOLLAR
MELVILLE DOLLAR - - - - - HAROLD DOLLAR
GRACE DOLLAR



S. S. "HAZEL DOLLAR"

MANUFACTURERS OF OREGON PINE, CALIFORNIA RED WOOD AND CREOSOTED SLEEPERS

OUR MILLS ARE ESPECIALLY EQUIPPED FOR SUPPLYING RAILWAY TIMBER ORDERS, AND WE MAKE PROMPT DELIVERY BY OUR OWN STEAMERS

CABLE ADDRESS:
"DOLLAR"
A. B. C. 5th Ed.: Southard's Codes

# United States Steel
## PRODUCTS EXPORT CO.

**24a Kiangse Road, Shanghai**

### Exporters of the Products of

*Carnegie Steel Co.*
*Lorain Steel Co.*
*Illinois Steel Co.*
*Shelby Steel Tube Co.*
*National Tube Co.*
*Western Tube Co.*
*Tennessee Coal & Iron Co.*
*American Sheet & Tin Plate Co.*
*American Steel & Wire Co.*
*American Bridge Co.*

### Manufacturers of

Bridges, Steel Rails, Bolts and Spikes, Switches and Crossings, Steel Cross Ties, Schoen Steel Wheels, Forged Axles, Coil Springs, Tubular Poles, Buildings, Steel Plates, Shapes, Concrete Reinforcement, Shafting, Merchant Bars, Tool Steel, Hoops, Corrugated Sheets, Tin Plate, Boiler Tubes, Gas, Steam and Water Pipe, Pipe Fittings, Wire Nails, Wire Rope, Steel and Copper Wire, Wire Fencing, Horse Shoes,

CARNEGIE STEEL SHEET PILING

*Designs and Estimates Submitted for Bridges and Steel Buildings Erected Complete*

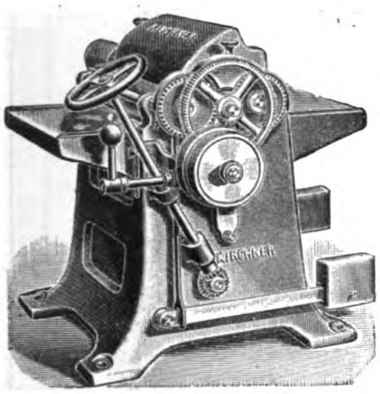
CABLE ADDRESS:
"FEDERATION"

# GERMANN & CO., Ltd.

PHONE 500
P. O. BOX 310

## Electrical and Mechanical Engineers and Contractors

3 PASAJE DE PEREZ, MANILA, P. I.

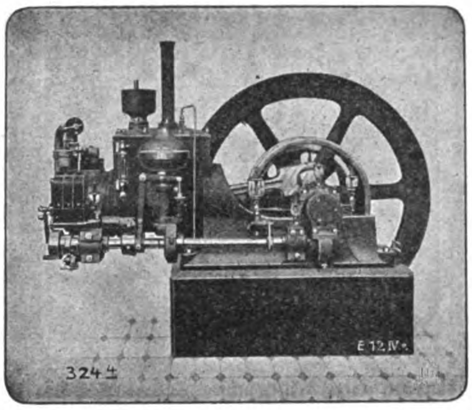


KIRCHNER'S PLANER

GENERAL MACHINERY AND SUPPLIES

ELECTRIC LIGHT AND POWER PLANTS

SCIENTIFIC APPARATUS AND INSTRUMENTS



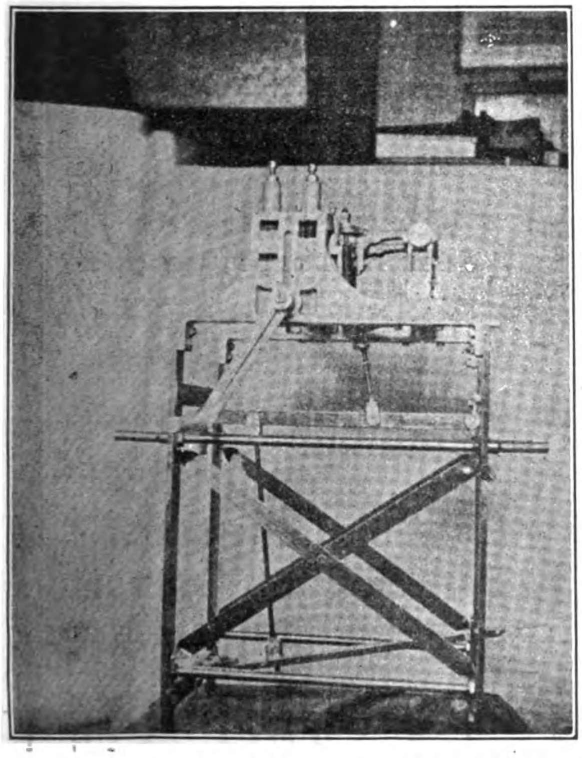
PETROLEUM MOTOR ENGINE

COMPLETE INDUSTRIAL AND AGRICULTURAL MACHINERY OUTFITS

CONSULTING AND CONSTRUCTING ENGINEERS

REPRESENTING LEADING MANUFACTURERS OF THE UNITED STATES AND EUROPE

## THE "DAILEY"
**Patent Hand-Power Hemp Cleaning Machine**



WEGHT 172 LBS.

Capacity 150 lbs. of clean, white Brilliant Fiber per day.

FOR PRICES AND PARTI- CULARS *Address*

*C. E. DAILEY*

82-92 BEAVER ST. NEW YORK

## The Philippine Journal of Science

Edited by
PAUL C. FREER, M. D., Ph. D.

*A Journal devoted to the scientific work done in the Philippine Islands by the members of the Staff of the Bureau of Science, and by other scientific workers.*

PUBLISHED BY THE BUREAU OF SCIENCE OF THE PHILIPPINE ISANDS

Volume V will begin January, 1910:

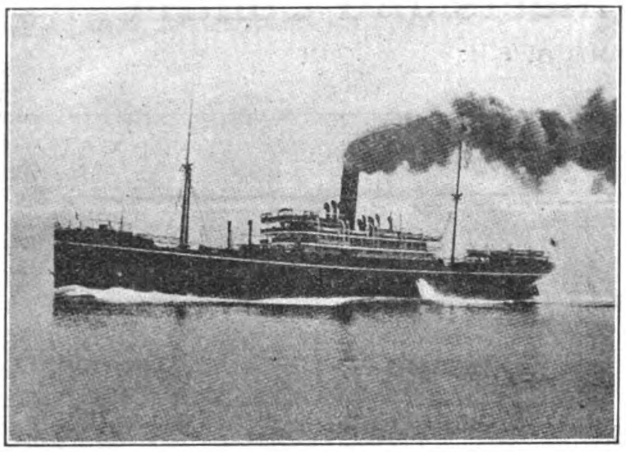
| | | |
|---|---|---|
| The entire Journal | $5.00 | U. S. currency |
| Section A, General Science | 2.00 | U. S. currency |
| Section B, Medical Sciences | 3.00 | U. S. currency |
| Section C. Botany | 2.00 | U. S. currency |
| Single Numbers | .50 | U. S. currency |

Each section is separately paged and indexed.

A limited number of unbound copies of previous volumes are available and can be secured from the Director of Printing at the following rates: Volume 1, 1906 (not divided into sections) $5, U. S. currency; Supplement to Volume 1, $2.50, United States Currency; Volume I (without supplement), $3, United States currency; all later volumes at current subscription prices.

SUBSCRIPTIONS may be sent to the DIRECTOR OF PRINTING, Manila, P. I.

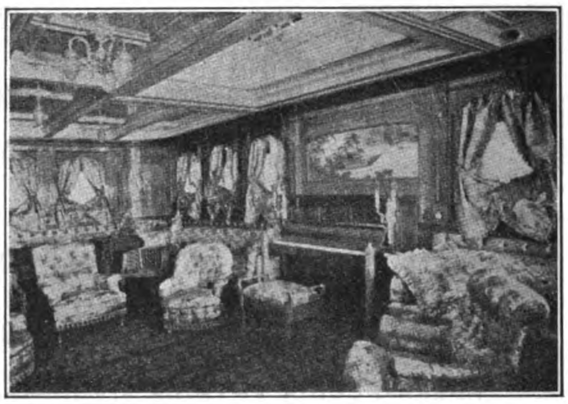
# NIPPON YUSEN KAISHA



(JAPAN MAIL S. S. CO.)

Under Mail Contract with the Imp. Japanese Government

EUROPEAN LINE ................FORTNIGHTLY
AMERICAN LINE ................FORWEEKLY (FROM KOBE FORTNIGHTLY)
AUSTRALIAN LINE................FORTNIGHTLY
YOKOHAMA SHANGHAI LINE.....TWICE A WEEK
SEVERAL LINES BETWEEN JAPAN TO NORTH CHINA, COREA, VLADIVOSTOK, ETC.



SOCIAL HALL S.S. "NIKKO MARU"

For Further Particulars concerning Freight and Passage, apply

NIPPON YUSEN KAISHA

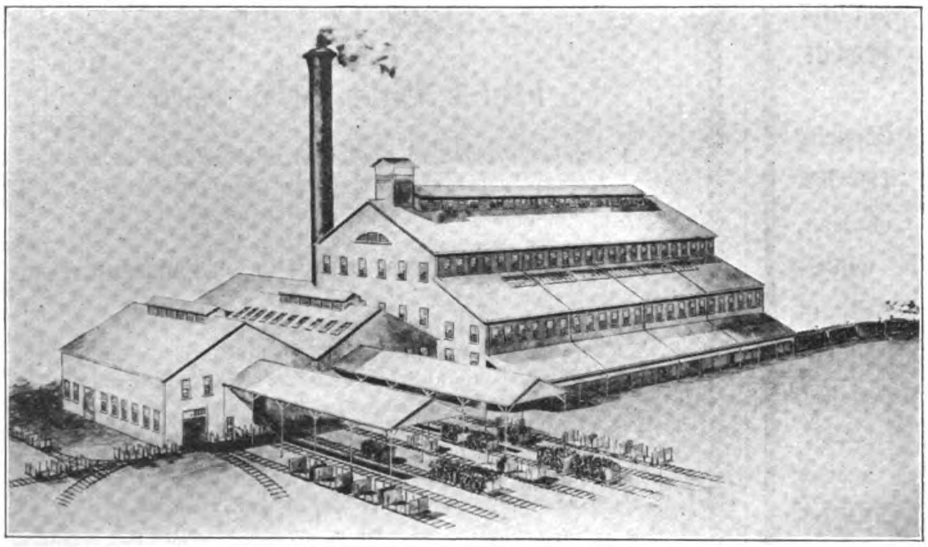
SHANGHAI, HONGKONG, YOKOHAMA, KOBE, MOJI, NAGASAKI AND

WARNER BARNES & CO.

Agents, Manila

# HONOLULU IRON WORKS COMPANY

Established 1852 HONOLULU, TERRITORY OF HAWAII Rebuilt 1899



EWA MILL DESIGNED BY HONOLULU IRON WORKS COMPANY, FOR A CAPACITY OF 2,400 TONS CANE PER DIEM

BUILDERS OF

Sugar Machinery

OF ALL DESCRIPTIONS

Sugar Mills
Evaporators
Tanks
Cane Cars
Vacuum Pans
Steam Boilers
Riveted Steel Pipe
Cane Unloaders, Etc.

Consulting Engineers, Designers and Contractors

FOR COMPLETE SUGAR FACTORIES

HONOLULU IRON WORKS COMPANY

Eastern Office, 11 Broadway, NEW YORK

Cable Address: "HONIRON," Honolulu Codes: A. B. C. 4th and 5th Edition and Western Union

# THE PHILIPPINE JOURNAL OF SCIENCE

## A Journal Devoted to the Scientific and Commercial Investigation of the Tropics.

EDITOR: PAUL C. FREER, M. D., Ph. D.

CO-EDITOR: RICHARD P. STRONG, Ph. B., M. D.

*Published by the Bureau of Science, Government of the Philippine Islands.*

Section A includes papers on (1) chemical research work, especial stress being placed on the investigation of the natural resources and products of the Islands, (2) geology, mineralogy and mining, (3) systematic and economic entomology, ornithology and icthyology, and (4) the ethnology and ethnography of the Malayan group.

Section B is devoted to studies on the causes, etiology, pathology, prophylaxis and treatment of tropical diseases; serum therapy and work on immunity.

Section C presents the results of research in both systematic and economic botany.

It is the intention to divide Section A in the near future and to form an additional section (D) which will be devoted to chemistry, geology, mineralogy and mining.

**SPECIMEN CONTENTS OF RECENT NUMBERS:**

Vol. IV.—1.—Section A: 91 pages; photographic plates, maps, etc.
FERGUSON, HENRY G. Physiography of the Philippine Islands.
SMITH, WARREN D. Contributions to the Physiography of the Philippine Islands.
BEAN, ROBERT BENNETT. Filipino Ears. A classification of Ear Types.
GRIFFIN, LAWRENCE E. Two New Species of Snakes Found in the Philippines.
SEALE, ALVIN. The Fishery Resources of the Philippine Islands.
II. Sponges and Sponge Fisheries.
McGREGOR, RICHARD C. A Collection of Birds from Northern Mindanao.
McGREGOR, RICHARD C. Philippine Ornithological Literature, II.
EDITORIAL.
REVIEW.

Vol. IV.—3.—Section B: Photographic plates, diagrams, etc.
COCA, A. F. Upon the Bactericidal Substances in Fibrin.
MARTINI, ERIC. The Development of Piroplasma and Trypanosoma of Cattle in Artificial Culture Media.
GARRISON, PHILIP E. and LEYNES, RICARDO. The Development of the Miracidium of Paragonimus Under Various Physical Conditions.
GARRISON, PHILIP E. and LLAMAS, ROSENDO. The Intestinal Worms of 385 Filipino Women and Children in Manila.
ARON, HANS. Some Investigations Concerning the Food and Nutrition of the Filipino People.
STRONG, RICHARD P. The Relation of the Indian Form of Relapsing-Fever to African Tick Fever.
GRIFFIN, LAWRENCE E. Poisonous Snakes of the Philippine Islands.
EDITORIAL.

Vol. IV.—2.—Section C:
BRAND, A. Additional Philippine Symplocacae.
COPELAND, EDWIN BINGHAM. New and Interesting Philippine Ferns.
MERRILL, E. D. A Revision of Philippine Connaraceae.
MERRILL, E. D. A Revision of Philippine Loranthaceae.
RIDLEY, H. N. The Scitamineae of the Philippine Islands.

**PRICES:**

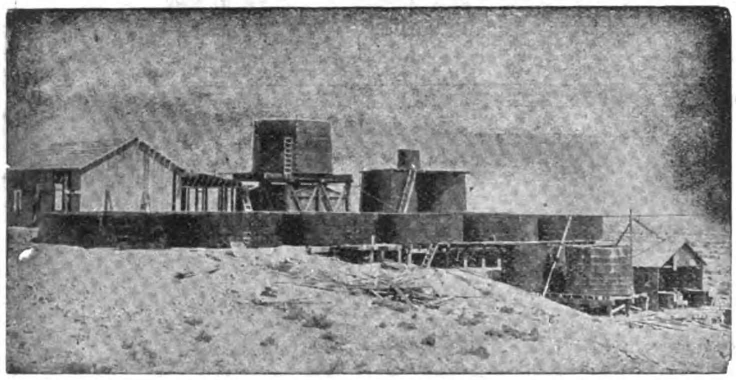
Section A. $2, U. S. currency.
Section B. $3, U. S. currency.
Section C. $2, U. S. currency.
Entire Journal $5, U. S. currency.
Single Numbers, 50 cents, U. S. currency.

FOREIGN AGENTS:

THE MACMILLAN COMPANY, 64-66 Fifth Avenue, New York City.
Messrs. WM. WESLEY & SON, 28 Essex Street, Strand, London, W. C.
Mr. MARTINUS NIJHOFF, Nobelstraat 18, The Hague, Holland.
Messrs. MAYER & MULLER, Prinz Louis Ferdinandstrasse 2, Berlin, N. W.
Messrs. KELLY & WALSH, LIMITED, 32 Raffles Place, Singapore, S. S.
Messrs. A M. & J. FERGUSON, 19 Baillie Street, Colombo, Ceylon.

*Write to Business Manager, Philippine Journal of Science, Manila, P. I., for sample copy and descriptive matter; or to any of the agents listed above.*

WHAT DO YOU KNOW ABOUT
**WOOD WATERPIPE AND TANKS?**



AS MANUFACTURED BY THE
**PACIFIC TANK & PIPE CO.**
SUCCEEDING
NATIONAL WOOD PIPE CO. -:- PACIFIC TANK CO.
OUR SPECIALTIES
MACHINE BANDED PIPE 2-IN. TO 24-IN. DIAMETER CONTINUOUS STAVE PIPE 12-IN. TO 12 FT. DIAMETER FOR PRESSURES UP TO 400 FT. HEAD. USED FOR CITY WATER SYSTEMS—IRRIGATION—POWER PLANTS
**TANKS** WATER—OIL—WINE—MINING—CYANIDE PLANTS AND SUPPLIES.
SEND FOR TANK OR PIPE CATALOG
318 MARKET ST., SAN FRANCISCO, CAL., U. S. A.

**LAMBERT-SPRINGER CO.**
INCORPORATED
99-107 PLAZA SANTA CRUZ, MANILA, P. I.

SOLE AGENCIES
The Bird-Archer Company's Marine Boiler Compounds.
Johnson's Wood Finishing Specialties.
Baltimore Copper Paint Company's Prepared Paints.
Brilliantshine Metal Polish.
'Lasco" Sanitary Fixtures.
Valvoline Lubricating Oils.

**PLUMBING AND SANITARY APPLIANCES**
Hardware, Paints, Oils, Engineers' Supplies, Rubber Goods, etc.
ARMY AND NAVY CONTRACTORS

P. O. BOX 885
PHONE 433
CABLE ADDRESS:
LAMBERTMES, MANILA

CODES USED:
WESTERN UNION
A. B. C. 5th EDITION
AND PRIVATE

**Malthoid Roofing**
AND
P & B PRODUCTS

MALTHOID ROOFING is specified by the best Architects and Engineers and used by the best contractors on all notable buildings in the Far East.
MALTHOID ROOFING is past the experimental stage and is a recognized standard of roofing.
When laid according to our specifications it is guaranteed.
For booklet and samples write to your nearest Agent.

FAR EASTERN AGENCIES:
SHANGHAI - - - Messrs. Samuel, McGregor & Co., Ltd.
TIENTSIN, China - - - Messrs. William Fobes & Co.
HANKOW, China - - - Messrs. Westphal, King & Ramsay, Ltd.
HONGKONG and CANTON - - - Messrs. Arnhold, Karberg & Co.
VLADIVOSTOCK, Kharbin, Kharbarwjsk and Blagovestcheonst - - - Messrs. Kunst & Albers.

DISTRIBUTERS FOR THE PHILIPPINES
CALIFORNIA MANILA LUMBER COMMERCIAL CO.
Offices: LACK & DAVIS Bldg. Salesrooms under HOTEL METROPOLE

China, Manchuria, Japan, Indo-China, Siam, Straits Settlements, Malay States, Burma, India, Malaysia, and the Philippines

# THE FAR EASTERN REVIEW

VOL. VII.—No. 2. MANILA, SHANGHAI AND YOKOHAMA, JULY, 1910. 50 Centavos Philippine Currency 25 Cents, U. S. C.

## RAILWAYS IN CHINA, 1910

His Excellency HSI LIANG,
VICEROY OF MANCHURIA

General News and Comment

Macao Boundary Dispute

Pioneer Mining Enterprise in China

## ENGINEERING
## COMMERCE FINANCE

# Hongkong and Shanghai Banking Corporation

*DEPOSITORY OF THE GOVERNMENT OF THE PHILIPPINE ISLANDS*

**Capital (Paid in Cash).........$15,000,000**
**Sterling Reserve Fund......$15,000,000**
**Silver Reserve Fund............$15,500,000**
**Reserve Liability of Prop'rs.$15,000,000**

COURT OF DIRECTORS:

G. BALLOCH, Esq.
Chairman.
R. SHEWAN, Esq.
Deputy Chairman.
F. H. ARMSTRONG, Esq.
J. W. BANDOW, Esq.
HON. MR. HENRY KESWICK.
C. R. LENZMANN, Esq.
S. A. LEVY, Esq.
F. LIEB, Esq.
G. H. MEDHURST, Esq.
E. SHELLIM, Esq.
H. A. SIEBS, Esq.
ANDREW FORBES, Esq.

Head Office, Hongkong and Shanghai Banking Corporation, Hongkong

BRANCHES AND AGENCIES:

AMOY
BANGKOK
BATAVIA
BOMBAY
CALCUTTA
CANTON
COLOMBO
FOOCHOW
HAMBURG
HANKOW
HONGKEW (SHANGHAI)
HONG-KONG
IPOH
JOHORE
KOBE
KUALA LUMPUR
LONDON
LYONS
MALACCA
MANILA
NAGASAKI
NEW YORK
PEKING
PENANG
RANGOON
SAIGON
S. FRANCISCO
SHANGHAI
SINGAPORE
SOURABAYA
TIENTSIN
YLOILO
YOKOHAMA

CORRESPONDENTS—In Samar and Leyte: WARNER, BARNES & CO., LTD.
CORRESPONDENTS—In Cebu: KER & CO.
LONDON OFFICE—31 Lombard St.
LONDON BANKERS—London & County Banking Co., Ltd.

*Interest Allowed on Fixed Deposits at Rates which may be Learned on Application. Credit Granted on Approved Securities and Every Description of Banking and Exchange Business Transacted. Drafts Granted on London and the Chief Commercial Places in Europe, India, Australia, America, China and Japan.*

**J. R. M. SMITH, Chief-Manager - - - HONGKONG**
**A. M. REITH, Acting Manager - - - MANILA**

WADE GARDNER, Agent, 50 Wall Street, New York.
W. H. HARRIES, Agent, 401 Montgomery Street, San Francisco

# INTERNATIONAL BANKING CORPORATION

**HEAD OFFICE, 60 WALL STREET, NEW YORK**

**LONDON OFFICE, THREADNEEDLE HOUSE, BISHOPSGATE STREET, WITHIN, E. C.**

**CAPITAL PAID UP AND SURPLUS, $6,500,000.00 UNITED STATES CURRENCY**

**THOMAS H. HUBBARD, President**
**JAMES S. FEARON, Vice-President**

## BRANCHES

Bombay
Calcutta
Canton
Cebu
Colon
City of Mexico
Empire, C. J.
Hankow
Kobe
Manila
Panama
Peking
San Francisco
Shanghai
Singapore
Washington, D. C.
Yokohama

AGENCIES AND CORRESPONDENTS IN ALL PRINCIPAL CITIES OF THE WORLD
FISCAL AGENTS FOR THE UNITED STATES IN CHINA, THE PHILIPPINE ISLANDS AND THE REPUBLIC OF PANAMA
DESIGNATED DEPOSITORY FOR THE FUNDS OF THE GOVERNMENT OF THE PHILIPPINE ISLANDS
AND FOR THE FUNDS OF THE GOVERNMENT OF THE CANAL ZONE
GENERAL FOREIGN BUSINESS TRANSACTED
COMMERCIAL AND TRAVELLERS' LETTERS OF CREDIT ISSUED
BILLS OF EXCHANGE AND CABLE TRANSFERS BOUGHT & SOLD

# THE YOKOHAMA SPECIE BANK LTD.

**Capital (Paid-up): Yen 24,000,000** **Reserved Fund: Yen 15,900,000**

**HEAD OFFICE YOKOHAMA**

**PRESIDENT**

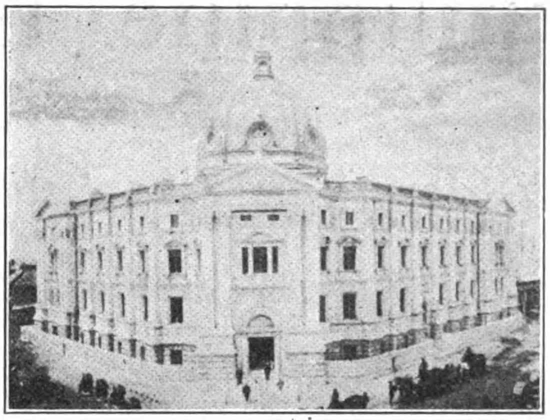
Baron Korekiyo Takahashi

**DIRECTORS**

Nagatane Soma, Esq.
Riemon Kimura, Esq.
Ippei Wakao, Esq.
Masunosuke Odagiri, Esq.
Tchunosuke Kawashima, Esq.
Kokichi Sonoda, Esq.
Rokuro Hara, Esq.
Yuki Yamakawa, Esq.
Viscount Yataro Mishima
Hyokichi Bekkey, Esq.

**GENERAL MANAGER**

Yuki Yamakaya, Esq.



HEAD OFFICE OF THE YOKOHAMA SPECIE BANK, YOKOHAMA

**HEAD OFFICE**

Every description of Banking business transacted.

For particulars, apply to the Manager.

Certified cheques on this Bank will be taken by the Custom House as cash in payment of duty.

Special Safe Deposit's Boxes are provided in the Vault of the Bank.

T. Kawashima, Manager

Yokohama, September, 1909.

**BRANCHES AND AGENCIES:**

Tokyo, Nagasaki, New York, Bombay, Hankow, Peking, Dairen (Dalny), Tiehling, Osaka, London, San Francisco, Hongkong, Newchwang, Liaoyang, Antung-Hsien, Kobe, Lyons, Honolulu, Shanghai, Tientsin, Ryojun (Port Arthur), Fengtien (Mukden), Changchun

Correspondents at all the chief commercial cities in the world.

**LONDON BANKERS:**

*Parr's Bank, Ltd.*
*Union of London & Smith's Bank, Ltd.*
*London Joint Stock Bank, Ltd*



# RUSSO-CHINESE BANK

**Organized under Imperial Decree 10th December, 1895**

| | |
|---|---|
| Capital | Rbs. 15,000,000 / Sh.Tls. 2,000,000 |
| Capital contributed by Chinese Government | K. Taels 5,000,000 |
| Reserve Fund | Roubles 5,612,000 |

Head Office: ST. PETERSBURG.
London Office: 41 THREADNEEDLE ST. E. C.

BRANCHES AND AGENCIES:

*Andijan, Armavir, Askhabad, Barnaoul, Batoum, Blagowestchensk, Bombay, Boukhara, Busk, Calcutta, Chefoo, Colombo, Hailar, Hankow, Harbin, Hongkong, Irkutsk, Karachi, Kashgar, Kerki, Khabarovsk, Khokand, Kiachta, Kouldja, Krasnoiarsk, Kuanchendzel, London, Marguelan, Merw, Moscow, Namangan, Newchwang, New York, Nicolaievsk o/Amoor, Nicolsk-Oussourisk, Nijni-Novgorod, Novo-Nicolaievsk, Novo-Ourguentch, Oust-Tcharychsk-Pristane, Paris, Peking, Samarkand, San Francisco, Semipalatinsk, Shanghai, Stretensk, Tatarskala, Tashkend, Tchita, Tchougoutchak, Tientsin, Tsitsikar, Verchneoudinsk, Verny, Vladivostock, Yakoutsk, Yokohama*

Tel. Address: SINORUSSE, SHANGHAI.

**Bankers**

London—Messrs. Glyn, Mills, Currie & Co.
Paris—Comptoir National d'Escompte de Paris, Banque de Paris et des Pay Bas
Berlin—Messrs. Mendelssohn & Co.
Hamburg—Messrs. M. M. Warburg & Co.
Vienna—K. K. priv. Oesterr. Credit Anstalt fur Handel & Gewerbs.
Amsterdam—Messrs. Lippmann, Rosenthal & Co.

Interest allowed on Current Accounts in Taels at the rate of 2 per cent. per annum on the daily balance.

Fixed Deposits in Taels and Dollars. Terms on application.

Local Bills discounted. Special facilities for Russian Exchange. Foreign Exchange on the principal cities of the world bought and sold.

**H. AUBERT, L. JEZIERSKI, Managers for China & Japan.**



# Deutsche-Asiatische Bank
# Shanghai

**Berlin, Calcutta, Hankow, Hamburg, Hongkong, Peking, Tientsin, Tsinanfu, Tsintau, Yokohama, Kobe, Singapore.**

**PAID-UP CAPITAL .................... SH. TLS. 7,500,000**

*Founded in 1889 by the following Banks and Bankers:*

Koenigliche Seehandlung (Preussische Staatsbank), Berlin.
Direction der Disconto-Gesellschaft, Berlin.
Deutsche Bank, Berlin.
S. Bleichroder, Berlin.
Berliner Handels-Gesellschaft, Berlin.
Bank fur Handel & Industrie, Berlin.
Robert Warschauer & Co., Berlin.
Mendelssohn & Co., Berlin.
M. A. von Rothschild & Sohne, Frankfurt o|M.
Jacob S. H. Stern, Frankfurt o|M.
Norddeutsche Bank in Hamburg.
Sal. Oppenheim jun. & Co., Cologne.
Bayerische Hypotheken & Wescheel Bank, Munich.

*London Bankers:*

Messrs. N. M. Rothschild & Son.
Union of London & Smith's Bank, Ld.
Deutsche Bank (Berlin), London Agcy.
Direction der Disconto-Gesellschaft.

*New York Agents:*

Schulz & Ruckgaber, 15 William Street

Every Description of Banking and Exchange Business Transacted.
Interest allowed on Current Accounts at 2 per cent per annum on the daily balance. Current accounts kept in taels and dollars.
Interest allowed on Fixed Deposits according to arrangement.
Local Bills discounted.
Every description of Banking and Exchange Business transacted.

R. Timmerscheidt, *Manager*, Shanghai.

# A NEW EL DORADO

## The Philippine Islands

*A Virgin Field Awaiting The Investor. Rich in Minerals, Hardwoods, and Agricultural Products*

Gold Production Increased 150% last year
Coal and Oil Fields Being Developed
Vast Deposits of Copper and Iron

## 40,000,000 Acres of the Finest Hardwoods on Earth

**We Raise** Hemp, Copra, Rubber, Tapioca, Sugar, Tobacco, Coffee, Maguey, and all other Products of Tropical Climes

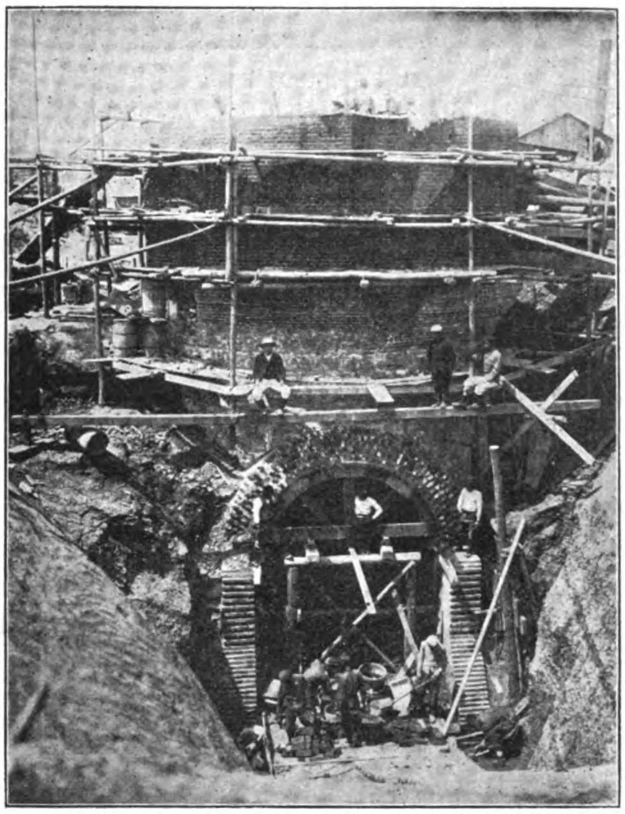
*No Other Land on Earth Offers a More Inviting Field for Capital*

**Write to the Publicity Committee**

THE MANILA MERCHANTS' ASSOCIATION

FOR INFORMATION

# FUSHUN COAL



SINKING SHAFT AT OYAMA PIT, FUSHUN COLLIERY.

## The Best Steaming Coal in the Far East

### Output 3,000 tons per day

Fresh stocks always on hand at Dairen, Newchwang & Tientsin Depots and also at Chefoo, Shanghai, Hongkong, Singapore and Penang.

MINING DEPARTMENT,

## South Manchuria Railway Company

DAIREN

Tel. Add. "Mantetsu," Codes: A.B.C. 5th Ed., A. 1 & Lieber's

Agents: MITSUI & COMPANY

# THE CHINESE ENGINEERING AND MINING CO., LIMITED

Head Office: TIENTSIN.
SHANGHAI, Jinkee Road.
HONGKONG, Alexandra Buildings

CHEFOO: Anz & Co.
WEIHAIWEI: Lavers & Clark.
HANKOW: C. Monbaron, Esq.
DALNY: Cornabe, Eckford & Co.
TSINGTAU, NEWCHWANG, MUKDEN: Arnhold, Karberg & Company.
PEKIN: V. Redelsperger, Esq.
SINGAPORE: Adamson, Gilfillan & Company, Ltd.

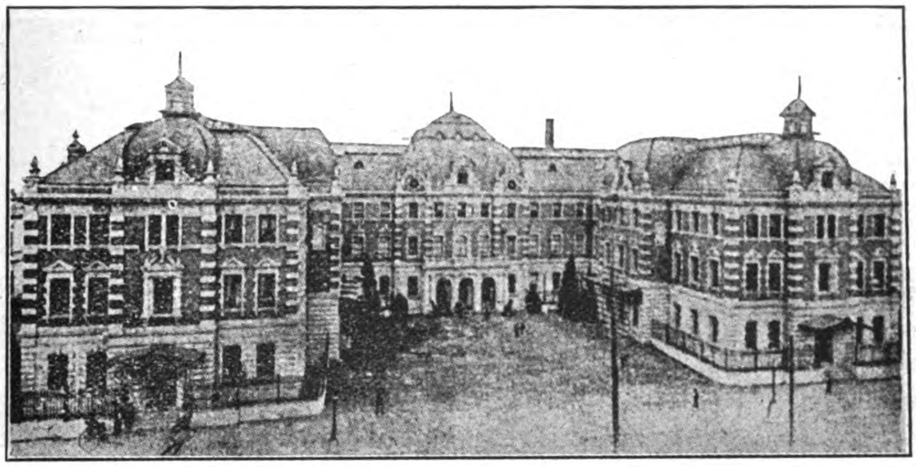
AGENCIES

The addresses of the Company's Agencies are as follows:

| | | | TELEGRAPHIC ADDRESS. |
|---|---|---|---|
| TIENTSIN | C. E. & M. Co., Ltd., Office | | MAISHAN |
| TONGKU | do. | | MAISHAN |
| CHINWANGTAO | do. | | MAISHAN |
| HONGKONG | do. Alexandra Buildings | | MAISHAN |
| SHANGHAI | do. 1 Jinkee Rd. | | SILI |
| CHEFOO | Anz & Co. | Agents | MAISHAN |
| DALNY | Cornabe, Eckford & Co. | ,, | CORNABE |
| WEIHAIWEI | Lavers & Clarke | ,, | MAISHAN |
| TSINGTAU | Arnhold Karberg & Co. | ,, | MAISHAN |
| NEWCHWANG | Arnhold Karberg & Co. | ,, | MAISHAN |
| MUKDEN | Arnhold Karberg & Co. | ,, | MAISHAN |
| HANKOW | C. Monbaron | ,, | MONBARON |
| SINGAPORE | Adamson, Gilfillan & Co., Ltd. | ,, | GILFILLAN |
| PEKING | J. Redelsperger | ,, | REDELSPERGER |
| LONDON | C. E. & M. Co., Ltd., Office 22 Austin Friars E. C. | | KAIMACS |
| BRUSSELS | do. 48 Rue de Namur | | KAIPING |

General Telegraphic Address: "MITSUI"

A B C, 5th edition and A1 Codes used



THE MITSUI BUILDING, TOKIO,
Containing the offices of the Mitsui Family Council, The Mitsui Mining Co., The Mitsui Bank, and The Mitsui Bussan Kaisha

# THE MITSUI BUSSAN KAISHA

## (MITSUI & CO. IN EUROPE AND AMERICA)

## HEAD OFFICE: Surugacho, Tokio, Japan

**President:** HACHIROJIRO MITSUI, Esq.

**Directors:** SENJIRO WATANABE, Esq.; GIICHI IIDA, Esq.; SANKICHI KOMURO, Esq ; KENZO IWAHARA, Esq.; JOTARO YAMAMOTO, Esq.

**Home Branch Offices:** YOKOHAMA, MOJI, KUCHINOTSU, NAGOYA, WAKAMATSU, MIIKE, OSAKA, KARATSU, TAIPEH, KOBE, NAGASAKI.

**Branch Offices in Asia:** TIENTSIN, NEWCHWANG, SHANGHAI, BOMBAY, SINGAPORE.

**London Branch Office:** MITSUI & Co., Lime Street.

**New York Branch Office:** MITSUI & Co., 445 Broome Street.

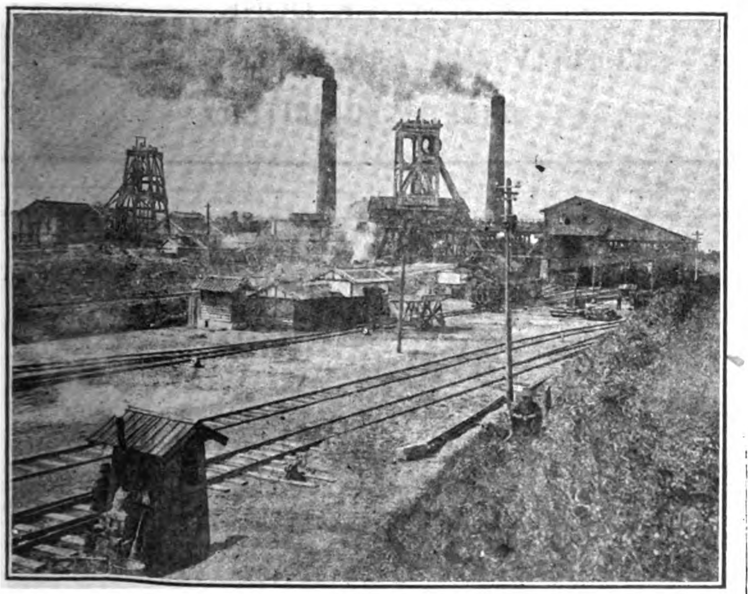
**Agents:** HAMBURG, CANTON, CALCUTTA, BANGKOK, FOOCHOW, HARBIN, SAN FRANCISCO, AMOY, DAIREN, TSINGTAU, SAIGON, SOURABAYA, HANKOW, SEOUL, ANTUNG, SYDNEY, MANILA, CHEFOO, CHEMULPO, RANGOON, VLADIVOSTOCK, ETC.

## IMPORT, EXPORT AND COMMISSION MERCHANTS

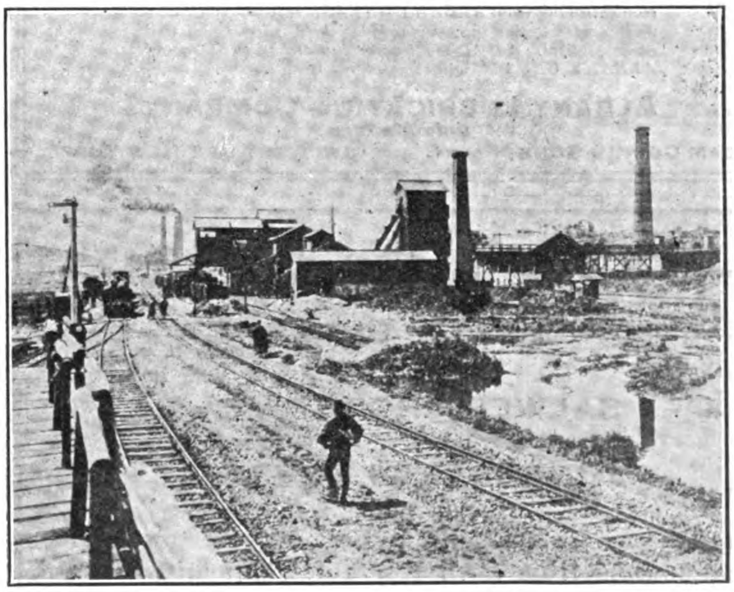
**CONTRACTORS OF COAL** to the Imperial Japanese Navy and Arsenals, the State Railways, Principal Railway Companies, Industrial Works, the United States Army Transport Service, and Home and Foreign Mail and Freight steamers.

**SOLE PROPRIETORS** of the famous Miike, Tagawa, Yamano and Ida Coal Mines, and Sole Agents for Hondo, Kanada, Kishima, Mameda, Mannoura, Ohnoura, Ohtsuji, Sasahara, Tohmiyama, Tsubakuro, Yoshio, Yunokibara, Takae, Fushun and other Coals.

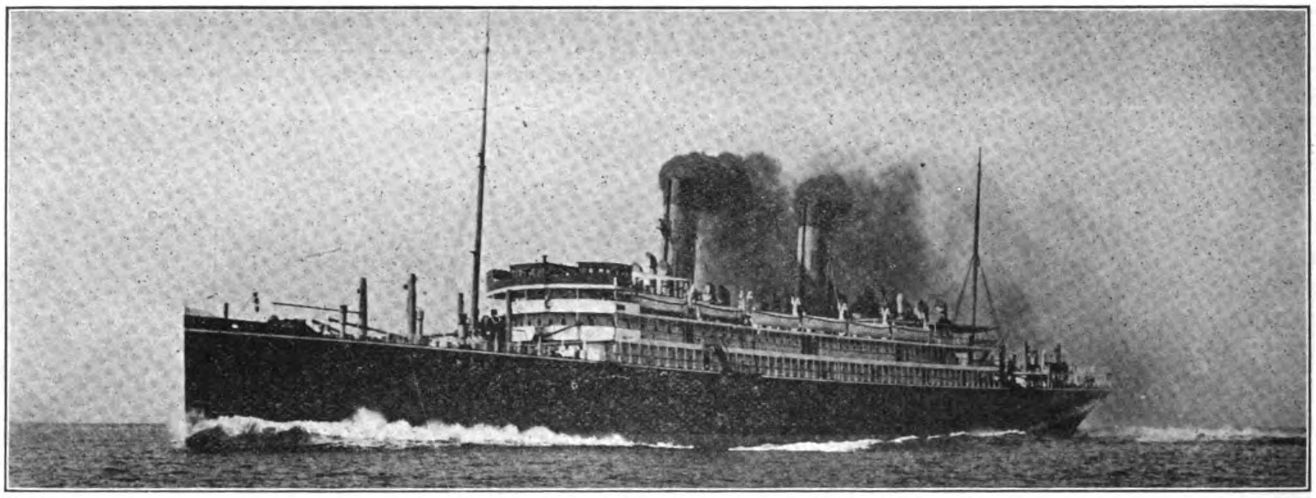
**IMPORTERS AND EXPORTERS** of Cotton, Cotton Yarn, Cotton Piece Goods, Book-binding Cloth, Copper, Silver, Tin, Lead and other Metals, Railway Materials, Acids, Camphor, Flour, Cereals, Manure, Opium, Isinglass, Mushrooms, Sugar, Wax, Vermicelli, Sulphur, Hemp, Beer, Cement, Cigarettes, Matches, Paper, Hides, Leather Belts, Teak and other Timbers, Machinery, etc.



MIYANOHARA PIT, MIIKE MINE



WASHING PLANT, MIIKE MINE



S. S. "CHIYO-MARU"

TRANS-PACIFIC TURBINE DRIVEN PASSENGER STEAMER "CHIYO-MARU" FOR T. K. K.—Built and engined by the Mitsu Bishi Dockyard and Engine Works, Nagasaki, November 1908.—Length (overall), 570 feet 0"; Breadth, moulded, 63 feet 0"; Depth (shelter deck), 46 feet 6"; Gross tonnage, 13,426 tons; Displacement, 18,725 tons; Engines, Parsons' Three Shaft Arrangement; Boilers, Single Ended Scotch Boilers (13); I. H. P., 19,591; Speed, 21 knots. (This photo was taken on her full speed trials the 13th October, 1908.)

# MITSU BISHI DOCKYARDS & ENGINE WORKS, NAGASAKI

| DOCK NO. 1. | | | DOCK NO. 2. | | | DOCK NO. 3. | | |
|---|---|---|---|---|---|---|---|---|
| EXTREME LENGTH | 523 | FT. | EXTREME LENGTH | 371 | FT. | EXTREME LENGTH | 722 | FT. |
| LENGTH ON BLOCKS | 513 | „ | LENGTH ON BLOCKS | 360 | „ | LENGTH ON BLOCKS | 714 | „ |
| WIDTH OF ENTRANCE ON TOP | 88 | „ | WIDTH OF ENTRANCE ON TOP | 66 | „ | WIDTH OF ENTRANCE, TOP | 99½ | „ |
| „ „ „ „ BOTTOM | 77 | „ | „ „ „ „ BOTTOM | 53 | „ | „ „ „ BOTTOM | 88½ | „ |
| WATER ON BLOCKS AT SPRING TIDE | 26½ | „ | WATER ON BLOCKS AT SPRING TIDE | 22 | „ | WATER ON BLOCKS AT SPRING TIDE | 34½ | „ |

## THE BEST EQUIPPED SHIPBUILDING PLANT IN THE FAR EAST,

WITH SPECIAL FACILITIES FOR HANDLING THE HEAVIEST CASTINGS AND THE REPAIRING OR BUILDING OF SHIPS, ENGINES AND BOILERS, ALSO ELECTRICAL WORK.

LARGE STOCK OF MATERIAL, AND FITTINGS ALWAYS ON HAND

THE POWERFUL SALVAGE STEAMER "OURA-MARU" (712 TONS, 700 I. H. P.) EQUIPPED WITH NECESSARY PUMPS AND GEAR, IS ALWAYS READY AT SHORT NOTICE.

## Have you ever stopped

*to consider that a lubricant that splashes or drips increases the fire risk of a building?*

Increased fire risk means *increased fire insurance rates.*

## ALBANY GREASE

**neither splashes nor drips.**

That's why five underwriters will allow a *lower* rate on buildings containing machinery lubricated with ALBANY GREASE than on buildings containing oil lubricated machinery.

ALBANY GREASE effects many other economies. That's why it's the *cheapest* of all lubricants to use.

*You can readily prove, at our expense, what an all-around economical lubricant ALBANY GREASE is for all machinery. Just send us pipe tap, depth of oil hole, where used and name of firm. An Albany Grease cup and trial package of ALBANY GREASE will come to you free.*

**ALBANY LUBRICATING COMPANY**

*Sole Makers*

ADAM COOK'S SONS, *Props.* 313 WEST ST., NEW YORK,

# THE WEN MING PRESS

88 HONAN ROAD, SHANGHAI

HIGH GRADE HALF TONES, ZINC ETCHINGS, ETC.

TYPE FOUNDRY, PRINTERS AND LITHOGRAPHERS

ALL WORK DONE

SKILFULLY AND AT MODERATE PRICES.

ORDERS SOLICITED

# HOTELS

WHERE TO LIVE AT MANDALAY

UPPER BURMA

SALWEEN HOUSE

AND

TENASSERIM HOUSE

Entire satisfaction guaranteed, as the numerous testimonials from both residents and tourists testify.

TELEGRAPHIC ADDRESS: "SALWEEN"

P. O. Box 194

# C. S. NICHOLSON

GENERAL BROKER

9 P. MORAGA. MANILA, P. I.

# THE KAWASAKI DOCKYARD CO., LTD.

## DAIREN

Cable Address: "DOCK," Dairen
Codes: AI and A. B. C. 5th Ed.

**PAID UP CAPITAL: -Y-10,000,000**

THE DAIREN BRANCH has a DRY DOCK and fully equipped MACHINE and TOOL SHOPS, an IRON & BRASS FOUNDRY and other Auxiliary Works. It undertakes general CASTING WORK and the construction and repair of all kinds of VESSELS, BOILERS, ENGINES and other MACHINERY.

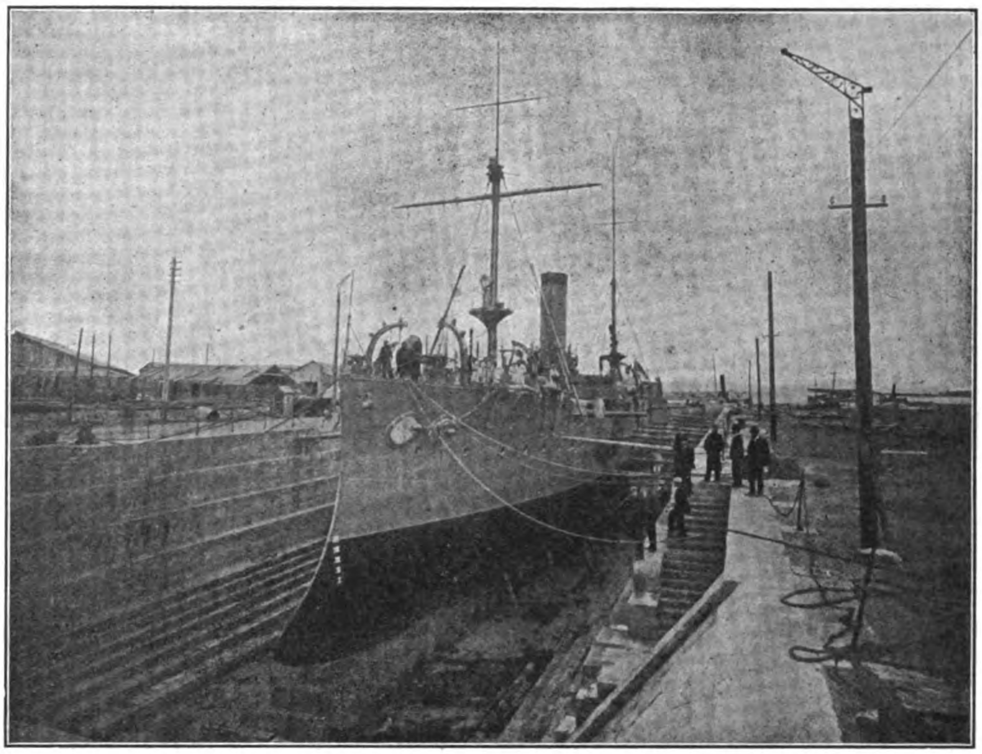
Powerful Salvage & Towing Boats will be supplied at Shortest Notice.

All work guaranteed to be of the highest order and to be of the most up-to-date improvements. All orders immediately attended to.

**DOCK**

| | |
|---|---|
| Length | 380 ft. |
| Width | 50 ft. |
| Depth over Sill | 20 ft. |

**DOCKING CHARGES VERY MODERATE**



GRANITE DRY DOCK, DAIREN



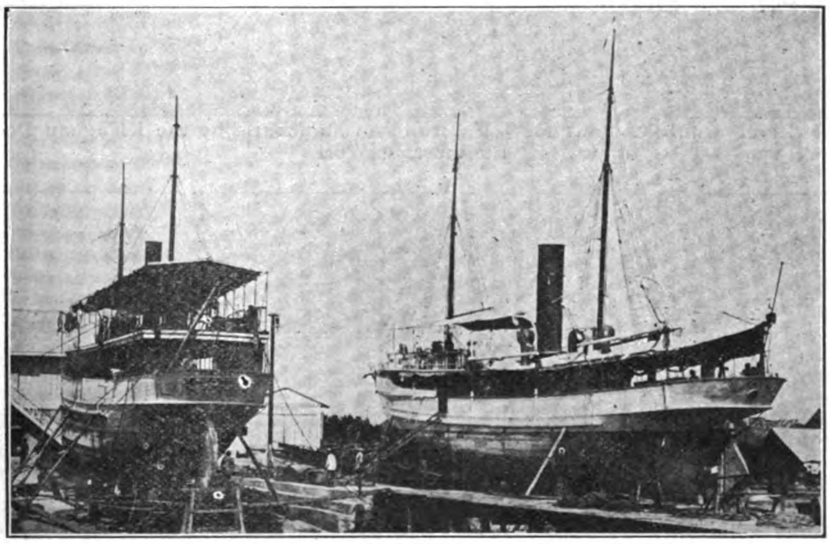
# MANUEL EARNSHAW & CO., LTD.

## MARINE ENGINEERS

15 BARCELONA ST., MANILA

REPAIRS TO SHIPS, BOILERS, ENGINES, ETC.

LAUNCH BUILDERS, FOUNDERS IN IRON, BRASS, ETC.



MARINE SLIPWAY

P. O. BOX NO. 282

TELEPHONE 213

Telegraphic Address: "MEARNSHAW" MANILA

Codes:
A. B. C., 5th Edition
Engineering Telegraph Code and Supplement; Western Union

FOUNDRY AT 151 REINA REGENTE

SLIPWAY AT CAVITE

# KIANGNAN DOCK AND ENGINEERING WORKS

**Directors:**

**ADMIRAL SAH**
IMPERIAL CHINESE NAVY

**KWONG KWOH WAH**
TAOTAI

**Manager:**

**R. B. MAUCHAN**

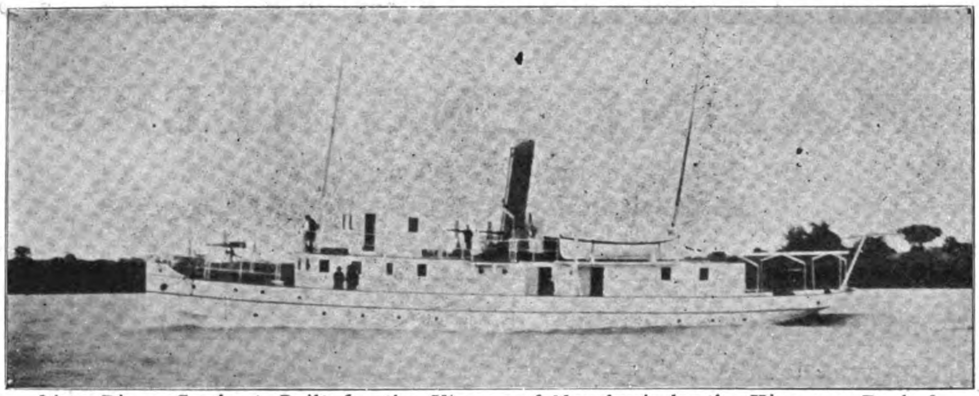
## KIANGNAN DOCK

Length over all, 385′; length on blocks, 375′; water on sill, 19′; dock entrance, top, 70′, bottom, 60′.

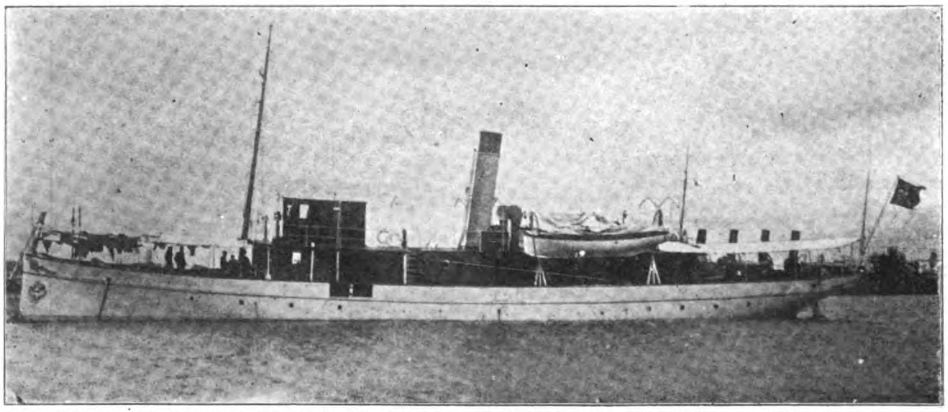
The dock accommodates the largest coasting steamers and is equipped with complete modern facilities for handling work thoroughly and promptly.

The new machine and boiler shops, and the foundry and shipbuilding plant are equal to any this side of Suez.

Yangtsze River Pirate Chaser, Built by the Kiangnan Dock & Engineering Works for the Viceroy of Nanking



Liao River Gunboat Built for the Viceroy of Manchuria by the Kiangnan Dock & Engineering Works



River Patrol Boat Built for the Szechuan Viceroy by the Kiangnan Dock and Engineering Works

**Cable Address:**

**"SINODOCK"**

**Codes:**

**A. B. C. 5TH EDITION, ENGINEERING, LIEBER'S, STANDARD**

**CONTRACTORS FOR REPAIRING, DOCKING AND REFITTING THE VESSELS OF THE IMPERIAL CHINESE NAVY AND THE IMPERIAL MARITIME CUSTOMS**

Patent slipway for small steamers and launches. Complete boat and launch building shops.

# TAIKOO DOCKYARD & ENGINEERING Co. OF HONGKONG LTD

Engineers, Boilermakers, Repairers

WORKS COVER AN AREA OF 53 ACRES

DRY DOCK 787 FT. × 88 FT. DEPTH 34½ FT.

SLIPWAYS
NO. 1 1030 FT.
NO. 2 993½ FT.
NO. 3 993½ FT.

Builders OF PASSENGER AND CARGO STEAMERS, TURBINE STEAMERS, STEAM YACHTS, ALL TYPES OF WAR VESSELS STEAM LAUNCHES MOTOR BOATS TUGS AND LIGHTERS

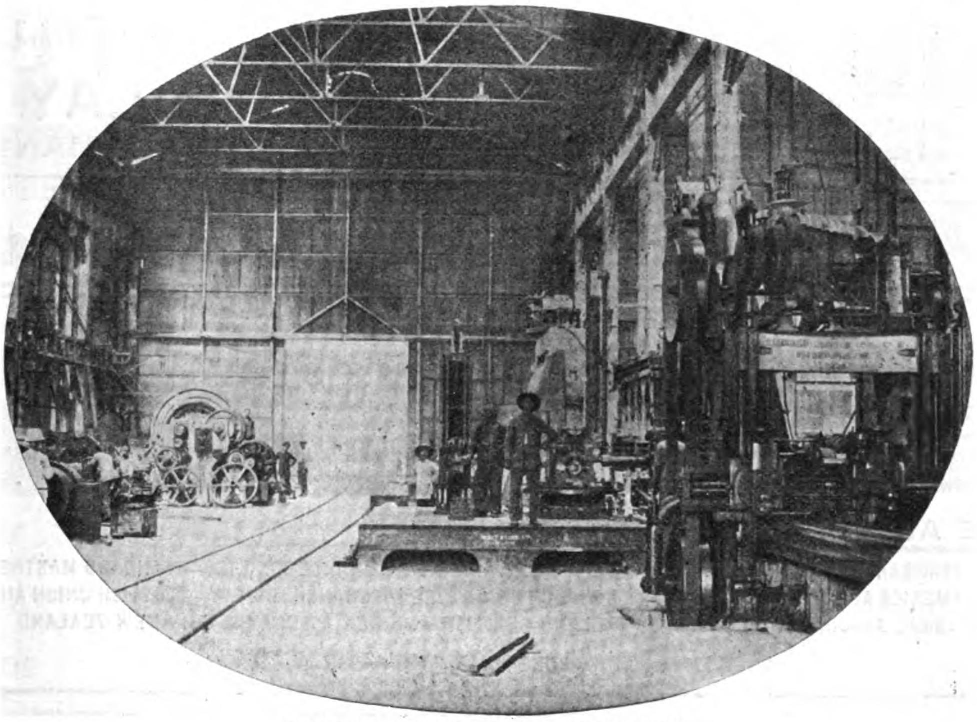
WORKS & GENERAL OFFICES QUARRY BAY HONGKONG

Telegrams
Temseloaf London
Taikoodock Hongkong

A SECTION OF THE YARD SHEWING TURBINE STEAMSHIP "CHIYO MARU" 13,600 TONS IN DRY-DOCK, TWO COASTING STEAMERS ON SLIPWAYS, AND VESSEL LYING ALONGSIDE THE SEAWALL

## THE BUILDING YARD IS LAID OUT WITH FURNACES AND PLANT SUITABLE FOR BUILDING VESSELS UP TO 20,000 TONS

GENERAL MANAGERS
**John Swire & Sons**
8 BILLITER SQUARE, LONDON



VIEW OF PORTION OF MACHINE SHOPS

AGENTS IN HONGKONG, CHINA AND JAPAN
**Butterfield & Swire**

THE POWER FOR THE ESTABLISHMENT is generated by Gas Producers, on the Mond System, supplying 4 Cockerill Gas Engines of 3,000 collective horse power, driving Electrical Generators, and is transmitted throughout the Works by means of Electrical Motors.

AN ELECTRIC DERRICK CRANE capable of lifting weights up to 100 tons, is erected on the Sea Wall, and 14 Electric Overhead Travelling Cranes ranging from 5 tons to 100 tons, are fitted throughout the Workshops.

AGENTS IN MANILA
AND
PHILIPPINE ISLANDS

**CASTLE BROS.-WOLF & SONS**

THE DOCK PUMPS consist of 2 sets of Centrifugal, Electrically driven, pumps, together capable of emptying the Dock with 35 feet of water on the Cill in 2¾ hours.

THE MACHINERY in the Engine Works is laid out for dealing with the heaviest classes of Engines.

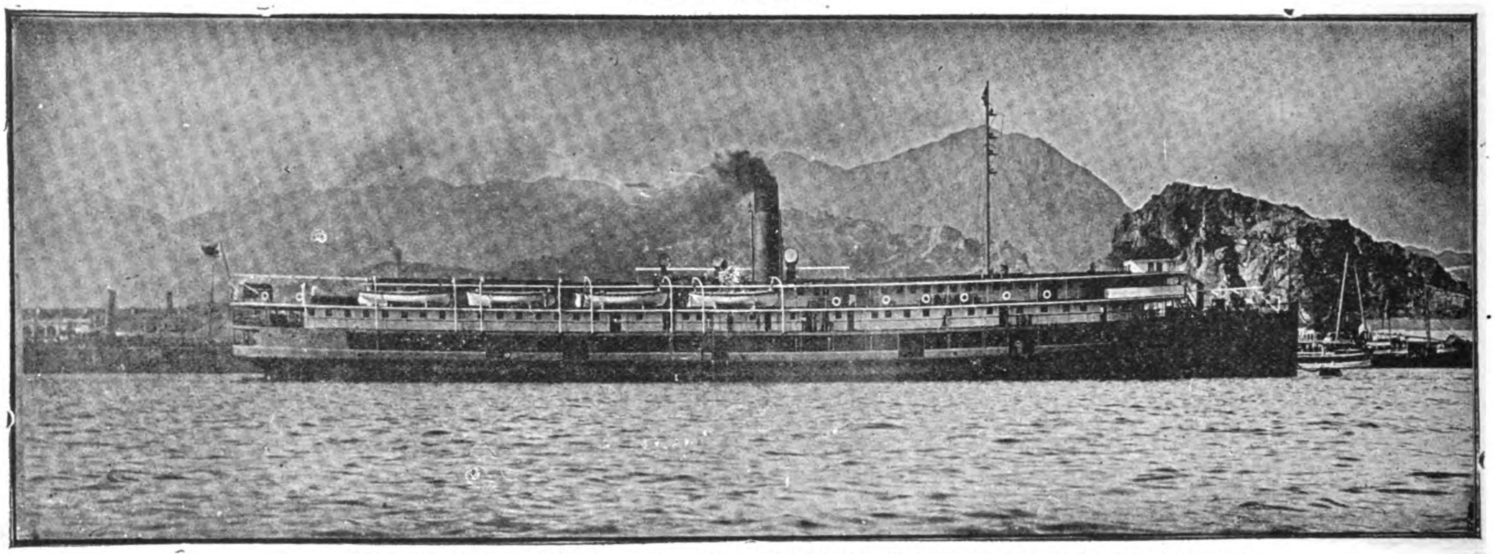
THE SLIPWAY CARRIAGES are of the latest pattern by Morton of Leith, and the Winding Gear consists of large electrically driven winches operating massive wire cables.

TENDERS SUBMITTED AND ESTIMATES GIVEN FOR BUILDING AND REPAIRING ALL CLASSES OF VESSELS; ALSO FOR EVERY DESCRIPTION OF ENGINE AND BOILER, MECHANICAL, ELECTRICAL AND CONSTRUCTIONAL WORK

# HONGKONG & WHAMPOA DOCK CO., LTD.

ENGINEERS, BOILERMAKERS, FOUNDERS,
SHIP BUILDERS AND DOCK OWNERS

HONGKONG



YANGTSZE RIVER STEAMER **LOONG-WO** BUILT BY THE HONGKONG AND WHAMPOA DOCK COMPANY, LTD.

The Company has SIX GRANITE DOCKS and TWO PATENT SLIPS of the following dimensions:—

| *Name of Dock or Slip* | *Length on Keel Blocks* | *Entrance Breadth* | *Depth Over Sill at Ordinary Spring Tides* | *Rise of Tide* | |
|---|---|---|---|---|---|
| | | | | *Springs* | *Neaps* |
| **KOWLOON** | *Feet* | *Feet* | *Feet* | *Feet* | *Feet* |
| No. 1 Dock, Kowloon......... | 576 | 86 ft top / 70 ft. bottom | 30′ | 7′ 6″ | 3 |
| No. 2 Dock, Kowloon ....... | 371 | 74′ | 18′ 6″ | 7′ 6″ | — |
| No. 3 Dock, Kowloon......... | 264 | 49′ 3″ | 14′ | 7′ 6″ | — |
| Patent Slip, No. 1, Kowloon... | 240 | 60′ | 14′ | 7′ 6″ | — |
| Patent Slip, No. 2, Kowloon... | 220 | 60′ | 12′ | 7′ 6″ | — |
| **TAI-KOK-TSUI** | | | | | |
| Cosmopolitan Dock........... | 466 | 85′ 6″ | 20′ | 7′ 6″ | — |
| **ABERDEEN** | | | | | |
| Hope Dock.................... | 430 | 84′ | 23′ | 7′ 6″ | — |
| Lamont Dock.................. | 333 | 64′ | 16′ | 7′ 6″ | — |

THE COMPANY'S DOCKS at KOWLOON, TAI-KOK-TSUI and ABERDEEN are in efficient working order, and the attention of Captains and Shipowners is respectfully solicited to the advantages which these Establishments offer for Docking and Repairing Vessels.

*For Further Particulars apply at the Offices of the Company, Queen's Buildings, No. 1, New Praya, Hongkong, or to*

## FINDLAY & CO.

AGENTS, MANILA, P. I.

# W. F. Stevenson & Co., Ltd.

ILOILO MANILA CEBU

MERCHANTS

**STEAMSHIP AGENCIES**

BOSTON STEAMSHIP COMPANY—BOSTON TOW BOAT COMPANY—"BEN" LINE OF STEAMERS—"INDRA" LINE OF STEAMERS—NORTHERN PACIFIC STEAMSHIP COMPANY—PENINSUAR AND ORIENTAL STEAM NAVIGATION CO. - - - - - - - -

**INSURANCE AGENCIES**

LIFE, STANDARD LIFE ASSURANCE CO.—MARINE, MARINE INSURANCE CO., LTD.—STANDARD MARINE INSURANCE CO., LTD.—BRITISH AMERICA ASSURANCE CO.—FIRE, NORWICH UNION FIRE INSURANCE SOCIETY—SCOTTISH UNION AND NATIONAL INSURANCE CO.—NATIONAL ASSURANCE COMPANY OF IRELAND—BRITISH AMERICA ASSURANCE CO.—NEW ZEALAND INSURANCE CO. - -

4 MUELLE DEL REY, MANILA, P. I.

# Johnson-Pickett Rope Co.

PURE MANILA ROPE

MADE WITH LATEST IMPROVED ROPE MACHINERY

Average Breaking Load After Three Tests:

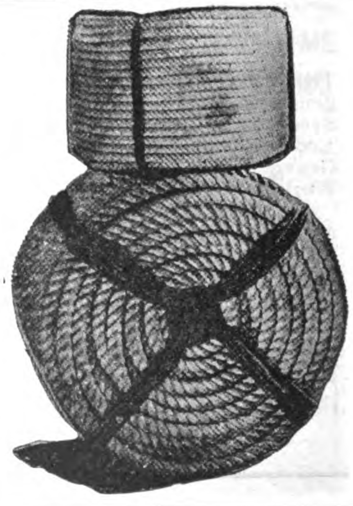
2 Inch Rope Circumference........ 4,037 Pounds
3½ " " " ........ 16,670 "
5 " " " ........ 23,728 "

Factory and Salesroom.
Cor. Vives and Lara, Murallon,
San Nicolas, Manila, P. I.

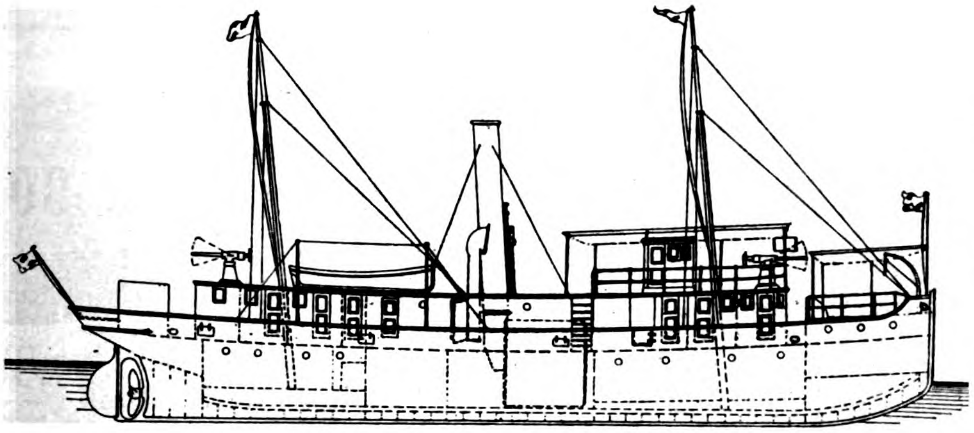
TELEPHONE
1123

Cable Address: SANTAROPE
Code: Western Union, Universal Edition.

CORRESPONDENCE SOLICITED



ENGINEERS, MACHINISTS and FOUNDERS



SHIPBUILDERS, BOILERMAKERS ELECTRICIANS

I. C. M.'S GUNBOAT "KAI-HAI" BUILT BY THE NEW ENGINEERING AND SHIPBUILDING WORKS, LTD. SHANGHAI, FOR SERVICE IN NORTH CHINA: SPEED, 11 KNOTS

COAST AND RIVER STEAMERS, TUGBOATS, LAUNCHES, LIGHTERS, PONTOONS, SHALLOW DRAFT SIDE OR STERN WHEEL STEAMERS. ENQUIRIES SOLICITED. PLANS, SPECIFICATIONS AND ESTIMATES FURNISHED. ALL CLASSES OF ENGINEERING WORK UNDERTAKEN

# THE NEW ENGINEERING AND SHIPBUILDING WORKS, LTD.

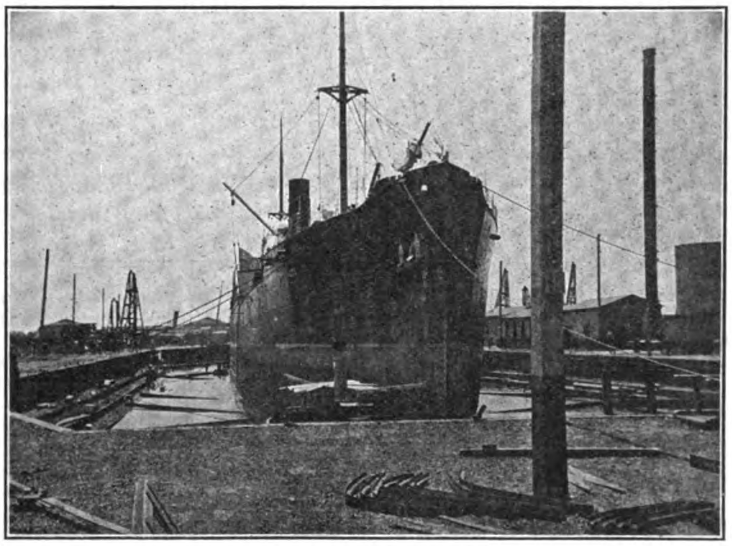
## SHANGHAI

PROPRIETORS OF THE

# YANGTSZEPOO DOCK

THE DOCK, WORKS AND OFFICE ARE LOCATED ON THE SHANGHAI SIDE OF THE RIVER, 15 MINUTES BY ELECTRIC TRAM FROM HEART OF THE CITY

THE WORKS ARE EQUIPPED WITH THE MOST MODERN MACHINERY, CAPABLE OF HANDLING THE LARGEST MARINE ENGINEERING WORK



VIEW OF YANGTSZEPOO DOCK

PARTICULARS OF DOCK
LENGTH ON BLOCKS 455'0"
" OVERALL - 469'0"
WIDTH, ENTRANCE 74'0"
" SILL - - 64'0"
DEPTH ON SILL, (H. W. O. S. TIDES) - - - 21'0"
DEPTH ON 3'0" BLOCKS (H. W. O. S. TIDES) 19'0"
PUMPS CAN EMPTY DOCK WITHOUT VESSEL IN, IN 3½ HOURS.
WORKSHOPS LOCATED AT HEAD OF DOCK

OFFICE, DOCK & WORKS, 37 YANGTSZEPOO ROAD, SHANGHAI

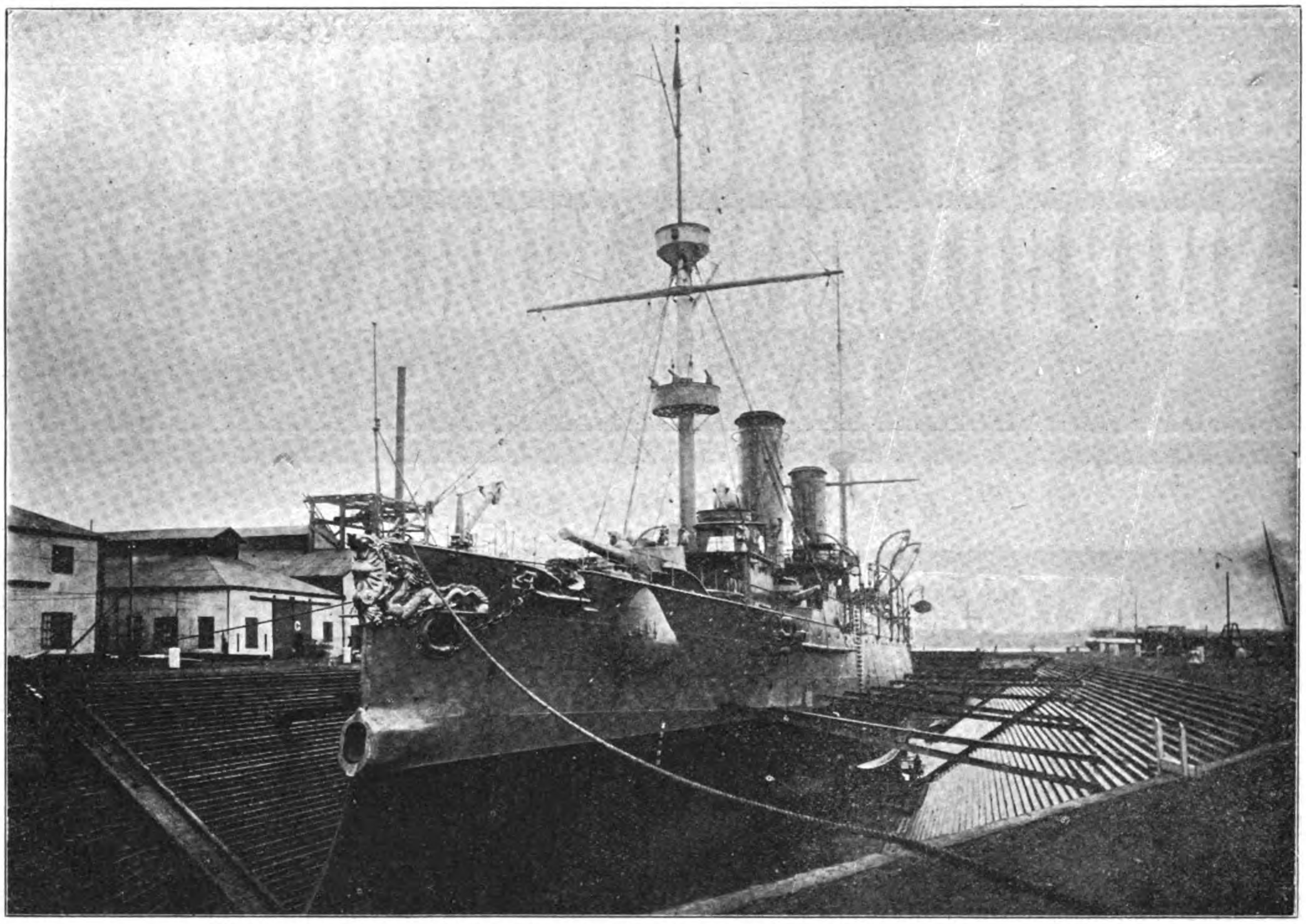
TELEGRAPHIC ADDRESS: "SPEEDY." CODE: A.B.C., 5TH EDITION — TELEPHONE 703. — MANILA AGENT, F. L. STRONG

# THE SHANGHAI DOCK AND ENGINEERING CO., LTD.

DOCK OWNERS — ENGINEERS — SHANGHAI CHINA — SHIP BUILDERS — FOUNDERS

Cable Address:
"FARNHAM," SHANGHAI

Codes Used:
A I., A B C (4th & 5th Editions)
Watkin's, Scott's, Western
Union and Engineering



The HAI-CHI in the "OLD DOCK" of the Shanghai Dock & Engineering Co., Ltd.

The Docks are five in number, ranging in length from 360 feet to 560 feet, and breadth of entrance from 57 feet to 82 feet, with the depth of water on the sill from 16 feet to 24 feet.

The Dock charges are very moderate.

The Water Frontage is about 1½ miles in length. Wharves and Pontoons are arranged where steamers can moor during repairs; and slips for hauling up small vessels are provided. Sheer legs capable of lifting 65 tons are placed at the various Docks.

The extensive Shipbuilding yards and workshops are provided with the latest improvements in tools, traveling cranes of 70 tons' capacity, hydraulic and pneumatic machinery.

Lit up by Electric light with railway lines through workshops and yards.

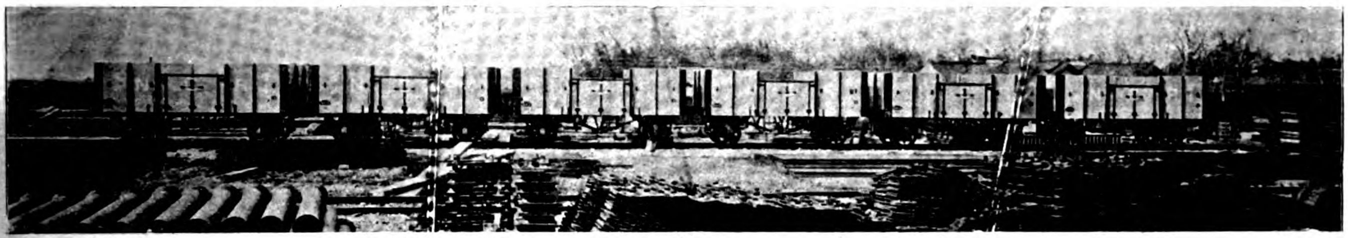
Powerful salvage appliances can be supplied at short notice. Enquiries immediately attended to.

Estimates given for all classes of work; Coast Steamers, Side and Stern-Wheelers, Tugboats, Launches, Steam Barges, Dredgers, Floating Cranes, and Lighters a speciality.

Every description of repairs and renewal work undertaken and expeditiously executed.

Land and Marine Engines and Boilers, Centrifugal, Mining, and other pumping machinery always in stock or in progress, also power driven Machine Tools, Engineer's Hand Tools, Steam, Gas, Oil, and Electric machinery and engineering accessories generally.

## CORRESPONDENCE INVITED



TYPE OF HIGH SIDE GOODS WAGONS

CONSTRUCTED BY THE VULCAN IRONWORKS, LTD., FOR THE NANKING CITY RAILWAY

# Railway Coaches and Goods Wagons Assembled
# Structural Steel Work Erected

ESTIMATES given for every description of Engineering and Constructional work and repairs, including supplying and installing of HOT WATER and STEAM HEATING in all its branches and HOT and COLD WATER SUPPLIES.

THE WORKS are electrically driven, and are equipped throughout with up-to-date machinery and labour saving devices, including an HYDRAULIC PLANT, and appliances to undertake constructing or repairing SHIPS, ENGINES, BOILERS, etc.

EXPERIENCED EUROPEAN STAFF SUPERVISES ALL BRANCHES OF WORK

# VULCAN IRONWORKS, Ltd.

ENGINEERS, SHIPBUILDERS, BOILERMAKERS, ELECTRICIANS, IRON AND BRASS FOUNDERS, ETC.

Office and Works: 45 YANGTSZEPOO ROAD, SHANGHAI

# PATTON'S IRONHIDE PAINT

A PROTECTIVE COATING FOR IRON AND STEEL

PREVENTS CORROSION CAUSED BY DAMPNESS, SULPHUROUS FUMES AND OTHER DELETERIOUS GASES

**Tough Elastic Durable**

THE RUSTLESS COATING FOR

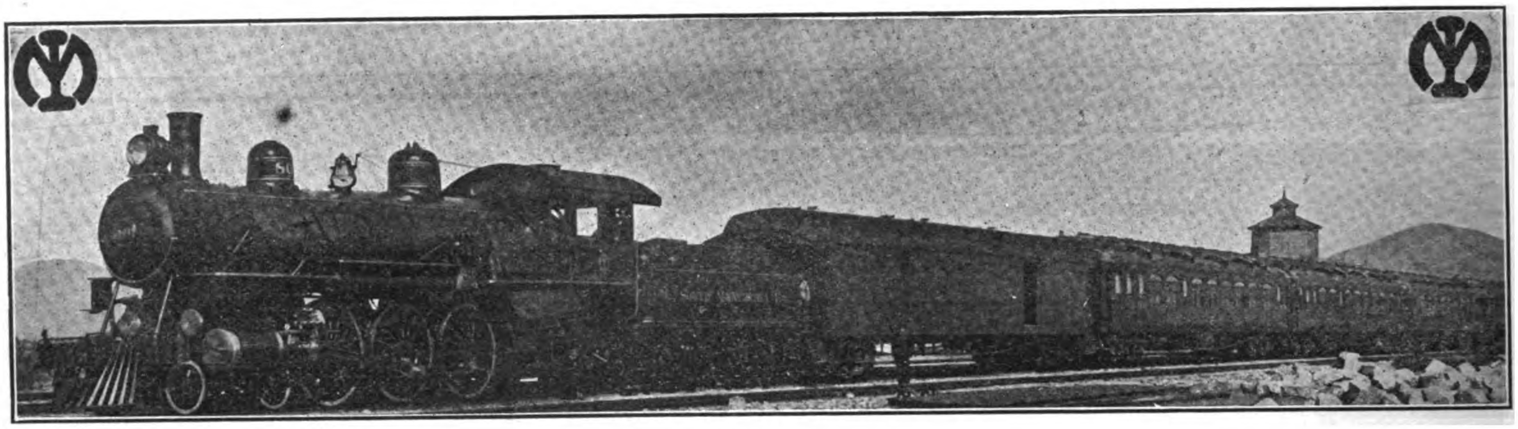
STRUCTURAL IRON WORK, STEEL CARS, TRAIN SHEDS, IRON PARTS OF ROLLING STOCK

BRAKE RODS, TRUSS RODS, TRUCKS, AND BRIDGES, SUBJECTED TO SEVERE VIBRATORY STRAINS, SHOULD ALWAYS BE COATED WITH PATTON'S

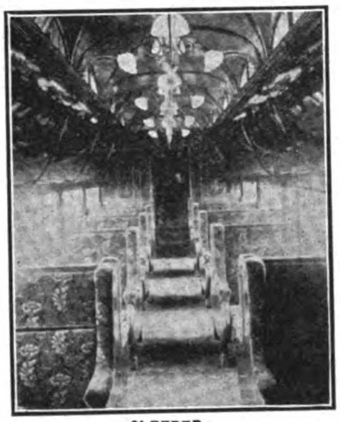
"IRONHIDE"

**FEARON, DANIEL & CO.** Sole Agents for CHINA, HONGKONG, JAPAN AND PHILIPPINES

SHANGHAI, NO. 9 FOOCHOW ROAD



# South Manchuria Railway



SLEEPER

**SHORTEST AND QUICKEST ROUTE BETWEEN THE FAR EAST AND EUROPE, VIA DAIREN**

**Main Railway Line** THRICE WEEKLY EXPRESS TRAIN SERVICE, composed of excellently equipped Sleeping, Dining and 1st class Cars, is operated between Dairen and Changchun in connection with the Trans-Siberian Express Trains and with Shanghai Mail Steamers.

INTERIOR PULLMAN DAY COACH

## BRANCH RAILWAY LINES

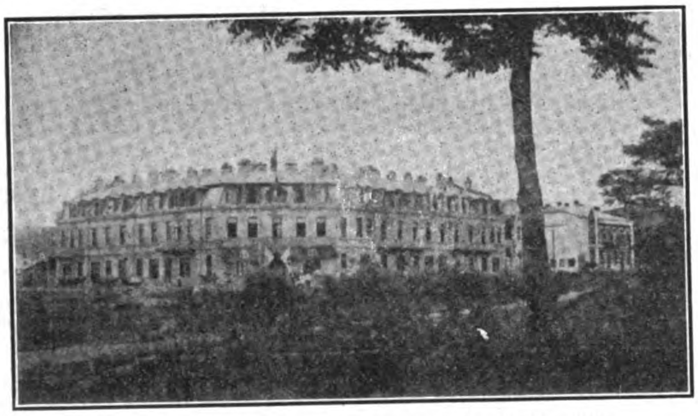
RYOJUN LINE—For Ryojun (Port Arthur), 1½ hours from Dairen.

YINGKOU LINE—For Yingkou (Newchwang), 40 minutes from Tashihchiao Junction.

FUSHUN LINE—For the famous Fushun Colliery from Suchiatun Junction.

ANTUNG LINE—A light railway from Mukden to Antung connecting with the Korean Railway.

DAIREN-SHANGHAI DIRECT STEAMER SERVICE—is maintained TWICE-WEEKLY by the S.S. "Kobe Maru" and "Saikio Maru" (2,877 tons each).



SOUTH MANCHURIA RAILWAY, YAMATO HOTEL, PORT ARTHUR

YAMATO HOTEL, DALNY

**TICKET AGENTS** The International Sleeping Car & Express Trains Co. and Messrs. Thos. Cook & Son.

**RAILWAY HOTELS** YAMATO HOTEL (Tel. Add.: "Yamato") At Dairen, Port-Arthur and Changchun, and shortly at Mukden, all under the Company's management.

**THROUGH PASSENGER TICKETS**—In conjunction with the Chinese Eastern Railway, Imperial Government Railways of Japan, the Imperial Railways of North China, the Osaka Shosen Kaisha and the Company's own steamers, Through Passenger Tickets are issued between the Company's principal stations and the undermentioned points:—

**NORTH MANCHURIA & SIBERIA:** Ashiho, Habarovsk, Hailar, Harbin, Manchouli, Nicolsk-Ussurisk, Pogranitchnaia, Shuangchengpu, Tsitsihar, Taolaichao, Vladivostock, Yaomen.

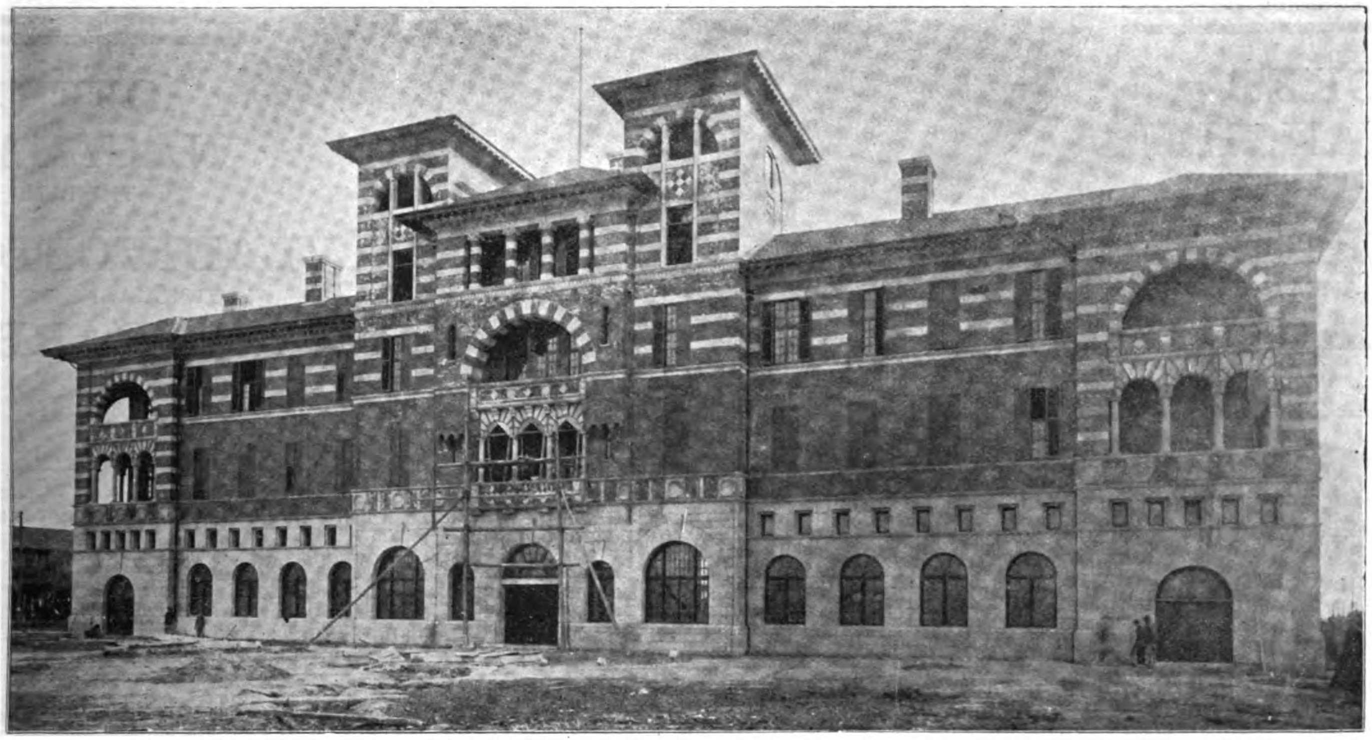
**CHINA:** Hsinminfu, Peking, Shanghai, Shanhaikuan, Tientsin.

**JAPAN:** Hakata, Hiroshima, Kioto, Kobe, Kumamoto, Moji, Nagasaki, Nagoya, Osaka, Shimonoseki, Tokyo, &c.

**SOUTH MANCHURIA RAILWAY COMPANY, Dairen**

**Tel. Add.: MANTETSU -:- Codes: A. B. C., 5th Ed., A1 and Lieber's**

# *The Line of a Hundred Pagodas*



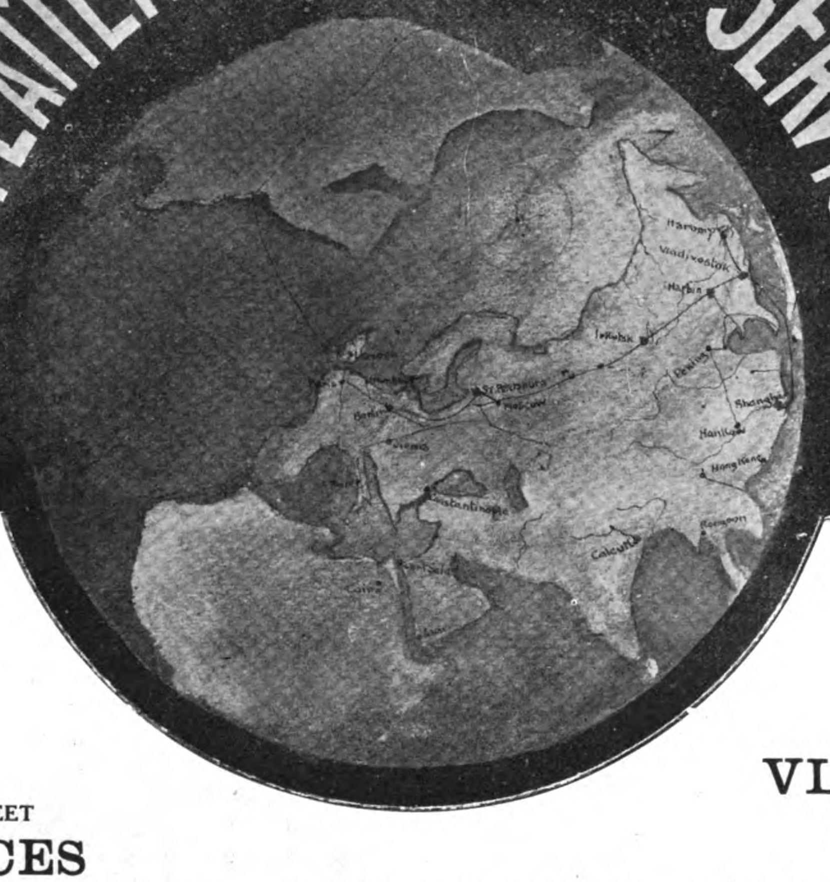
NEW STATION AND ADMINISTRATION BUILDING AT SHANGHAI

PASSENGERS TO THE YANGTSZE RIVER PORTS SHOULD TAKE THE STEAMER AT NANKING, THUS ENJOYING A TRIP THROUGH THE INTERESTING LAND OF PAGODAS AND "THE GARDEN OF CHINA." NANKING, THE SOUTHERN CAPITAL OF CHINA, WITH ITS MANY INTERESTING SIGHTS, THE CELEBRATED MING TOMBS, AND OTHER ATTRACTIONS, CAN BE SEEN IN TWO DAYS' TRIP FROM SHANGHAI. THE FIRST AND SECOND CLASS COACHES OF THE S-N. RAILWAY COMPARE WITH THE BEST IN EUROPE OR AMERICA FOR COMFORT AND SERVICE. TWO EXPRESS TRAINS DAILY.

# CHINESE EASTERN RAILWAY

## STEAMER & EXPRESS SERVICE

FAR EAST — EUROPE



**TICKET OFFICES**

**SHANGHAI**
8 KIUKIANG ROAD

**PEKING**
AMBASSADOR'S STREET

**NAGASAKI**
THE BUND

**VLADIVOSTOK**
ALEUTSKAIA, No. 37

**HEAD OFFICES AT HARBIN**

## STEAMER AND TRAIN TIME TABLE

| STEAMERS | | Free Time Between the Arrival of Steamer and Departure of Train | TRAINS | | | |
|---|---|---|---|---|---|---|
| DEPARTURE | ARRIVAL AT VLADIVOSTOCK | | DEPARTURE FROM VLADIVOSTOK | ARRIVE IRKUTSK | ARRIVE MOSCOW | ST. PETERSBURG |
| | | | (Harbin Time) | (St. Petersburg Time) | | |
| SHANGHAI Saturday*.......... | Thursday, 9.00 .................... | 31.25 hours | Friday, 4.25..... | Tuesday, 1 29... | ...................... | Monday, 6.00 |
| NAGASAKI Monday, 6.00...... | do do .................... | 31.25 " | Friday, 4.25...... | Tuesday, 1.29... | ...................... | Monday, 6.00 |
| TSURUGA Saturday 5.00 | Monday 11.00 ............... | 29.25 " | Tuesday 4 25.. | Saturday, 1.29. | Friday, 7.06...... | .................. |
| TSURUGA Thursday 5.00 | Saturday 11.00 ............... | | Sunday 4 25.. | Thursday, 1.29.. | Wed., 7.05...... | .................. |

The hours of departure depend upon the tide. The express trains of the Chinese Eastern Ry. Co. leave Vladivostock on Fridays and Sundays. The express leaving on Fridays connect at Irkutsk with the express State trains running between Irkutsk and St. Petersburg via Vologda-Viatka. The Chinese Ry. Co.'s expresses consist of luggage car, restaurant car, two second and one first class cars, and are provided with a 1st class kitchen and servants speaking English and French

### THE COMFORTS OF THE CHINESE EASTERN EXPRESS

SLEEPING ROOM

DINING CAR

BATH ROOM

# SIEMENS SCHUCKERT

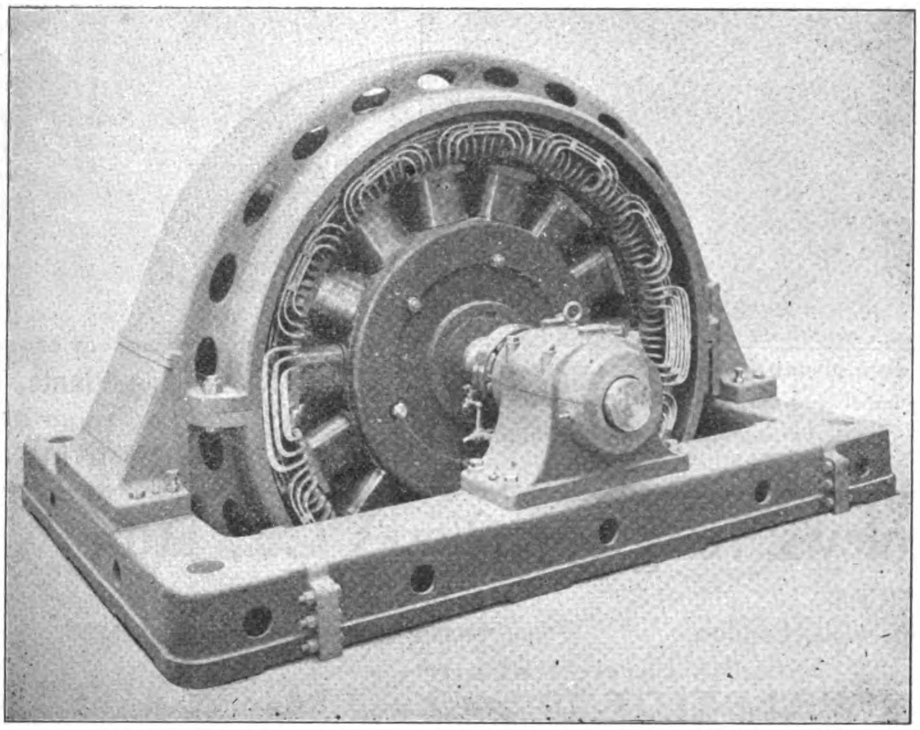
## MANUFACTURERS OF EVERYTHING ELECTRICAL

CHINA BRANCH HEAD OFFICE: AT SHANGHAI, SZECHUEN ROAD AND JINKEE ROAD CORNER
SUB-AGENCIES: AT TSINGTAO, HANKOW AND TIENTSIN, WITH A LARGE STAFF OF EFFICIENT ELECTRICAL ENGINEERS

Representing the Siemens Companies:

SIEMENS BROTHERS DYNAMO WORKS - - - London-Stafford
SIEMENS BROTHERS & COMPANY - - - - London-Woolwich
SIEMENS & HALSKE A. G. - - - - - - Berlin-Nonnendamm
GEBRUEDER SIEMENS & CO. - - - - - - Berlin-Lichtenberg
SIEMENS-SCHUCKERTWERKE G. m. b. H. - - Berlin-Nuernberg

Cable Address: FOR SHANGHAI, HANKOW & TIENTSIN, "MOTOR;" FOR TSINGTAU, "SIEMENS"
Codes used: PRIVATE, LIEBER'S AND A-1.



DIRECT COUPLED THREE-PHASE ALTERNATING CURRENT

## DYNAMO

**as installed at Mukden, Kirin, Soochow, Luanchow Mines and Tsingtau by Siemens-Schuckert-China-Branch**

***Plans and Estimates given for all descriptions of Electrical Machinery and Apparatus on short notice***

COMPLETE EQUIPMENTS FOR

*Lighting, Power and Traction Plants—Electrical Pumping, Winding and Hauling Plants—Builders of the "Zoelly" Steam Turbine—Manufacturers of Telephone, Telegraphic and Roentgen Ray Apparatus, Watermeters, Ozone Machines, Cables, Glow-lamps, Batteries, Electric and Gasoline Motor-Cars.*

**WIRELESS TELEGRAPHY INSTALLATIONS, SYSTEM TELEFUNKEN**

# DAVID W. BELL
## SHANGHAI CHINA

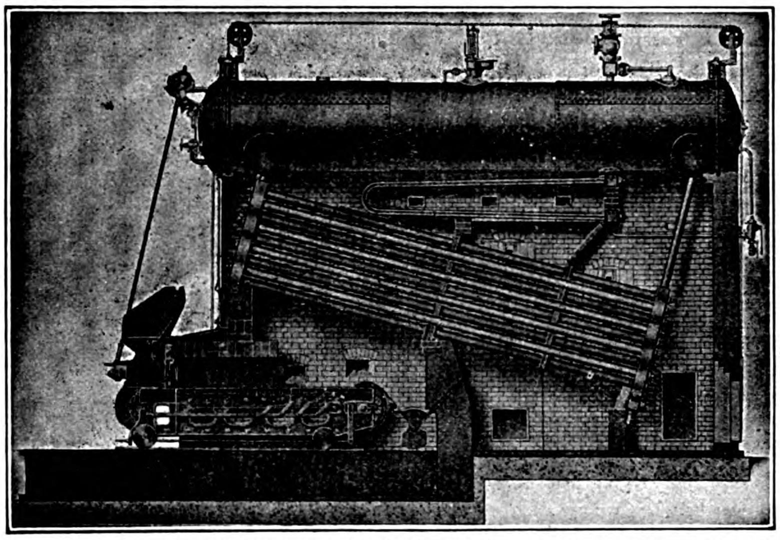
19 SZECHUEN RD
SHANGHAI
Telephone, 1944
Telegrams:
"GOLDFLOWER"
Codes: A. B. C., 5th Ed. Lieber's and Engineering

SOLE REPRESENTATIVE IN CHINA FOR THE FOLLOWING FIRMS

## BABCOCK & WILCOX, LIMITED
PATENT WATER TUBE BOILERS

7,000,000 H. P. Land Type and 1,400,000 H. P. Marine Type in use
2,100,000 H. P. of which are installed in

**Electric Light & Traction Stations**



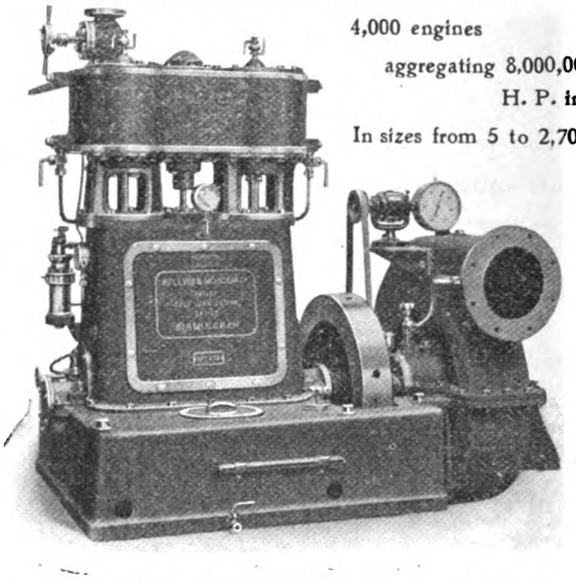
LAND TYPE BOILER FITTED WITH SUPERHEATER AND CHAIN GRATE STOKER

**Complete Steam Piping Installations and all Boiler House Accessories**

HEAD OFFICES:—Oriel House, Farringdon Street, London, E. C.
WORKS:—RENFREW, SCOTLAND

## BELLISS & MORCOM, LTD.
PATENT SELF-LUBRICATING
QUICK REVOLUTION STEAM ENGINES

4,000 engines aggregating 8,000,000 H. P. in use
In sizes from 5 to 2,700 H. P.



DIRECT CONNECT CENTRIFUGAL PUMPING

**Condensing Plants, Paraffin Engines**

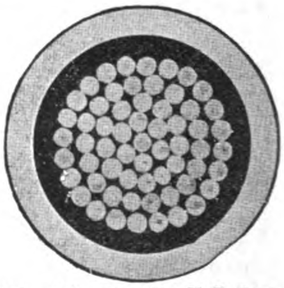
Head Office:
LEDSAM ST., BIRMINGHAM, ENGLAND

## W. T. Henley's Telegraph Works Co., Ltd.

HEAD OFFICES: Blomfield St., London Wall, London
WORKS: North Woolwich and Gravesend.

**Stocks carried at our SHANGHAI DEPOT, 19 Szechuen Road.**

Prices on application for Rubber, Paper, Jute or Bitumen. Insulated, House Service, Aerial and Bare Copper Cables. Flexibles or Telephone and Telegraph Cables of all kinds.



"61—.101—.5 sq. in.: H. T. Paper and Lead Covered."

## A Few Eastern Works Which Have Installations From One Or All the Above Firms

*Green Island Cement Co., Hongkong.*
*Electric Traction Co., of Hongkong.*
*China Light & Power Co., Kowloon and Canton.*
*Manila Electric R. R. & Light Co.*
*Shanghai Municipality Electricity Works (Tramway & Light.)*
*Cie Francaise de Tramways et d'Eclairage Electriques de Shanghai.*
*Shanghai-Nanking Railway.*
*Admiralty Dockyard, Hongkong.*
*The Trading Co., Hankow.*
*The Hongkong Electric Light Co.*
*The Hongkong and Whampoa Dock Co.*
*China Inland Light Co., Shanghai.*
*Swatow Electric Light Co.*
*Hankow Light & Power Co.*
*Hankow (Native City) Waterworks & Light Co.*
*Tientsin Gas & Electric Light Co.*
*Peking Electric Light Co.*
*Peking Syndicate, Ltd.*
*Hanyang Iron & Steel Works.*
*Tientsin Enterprising Corporation.*
*Fushun Colliery, Manchuria.*

**Correspondence Solicited—Estimates Given**

Specifications drawn and estimates given for Boilers, complete plants including superheaters, pumps, complete steam pipe ranges, chimneys, etc., Engines and condensing plants; for Central Stations, Dockyards, Arsenals, Mills, Factories, Collieries, Mines, etc.

SHANGHAI
HONGKONG
CANTON
HANKOW
CHUNGKING
TIENTSIN
TSINGTAU

# ARNHOLD, KARBERG & CO.

TSINANFU
NEWCHWANG
NEW YORK
BATTERY PL.
LONDON
BERLIN

## General Agents for

**ELECTRICAL GENERATORS, SUPPLIES, ETC.**
Allgemeine Electricitaets Gesellschaft (A. E. G.) Berlin.

**ELECTRIC TRAIN LIGHTING**
Electric Train Lighting Co., Berlin.

**RAILWAY MATERIAL**
Arthur Koppel Ltd., Berlin.

**STEAM LOCOMOTIVES**
The Baldwin Locomotive Works, Philadelphia.

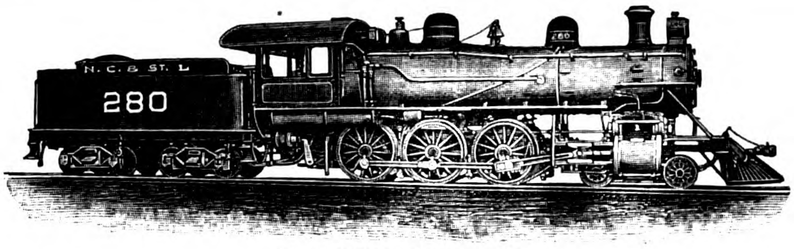
**STEAM PUMPS**
The A. S. Cameron Steam Pump Co., New York.

**TELEPHONE APPARATUS**
The Western Electric Co., New York and Chicago.

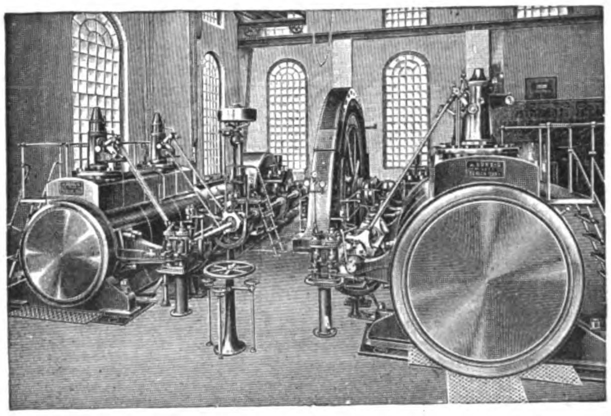
**FLOUR MILLING MACHINERY**
The Nordyke & Marmon Co., Indianapolis.

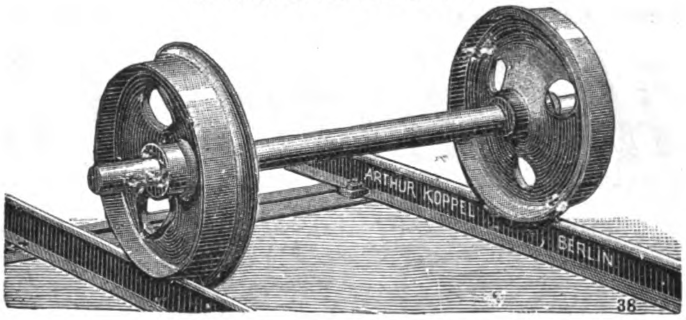
**BLASTING POWDER, FUSES, ETC.**
Rendrock Powder Co., New York.

**REINFORCED CONCRETE CONSTRUCTION**
Trussed Concrete Steel Co. (Kahn System), Detroit.



BALDWIN LOCOMOTIVE


A. E. G. ELECTRICAL PLANT



RAILWAY WHEELS AND AXLE

## General Agents for

**CONCRETE MACHINERY**
Ideal Concrete Machinery Co., South Bend.

**ROOFING**
Paraffine Paint Co., San Francisco.

**MOTORS, TORPEDO AND MINING MATERIAL**
Berliner Maschinenbau A. G. vorm Schwarzkoff, Berlin.

**ENGINES, PUMPS, BOILERS, ICE MACHINES, ETC.**
A. Borsig, Tegal, Berlin.

**AMMUNITION, ETC.**
Deutsche Waffen and Munitions Fabriken, Berlin, Karlsruhe.

**ARMY RIFLES, ARMS, ETC.**
Waffenfabrik Mauser A. G., Obendorf, Neckar.

**GUNS AND AMMUNITION**
Skodawerke A. G., Pilsen.

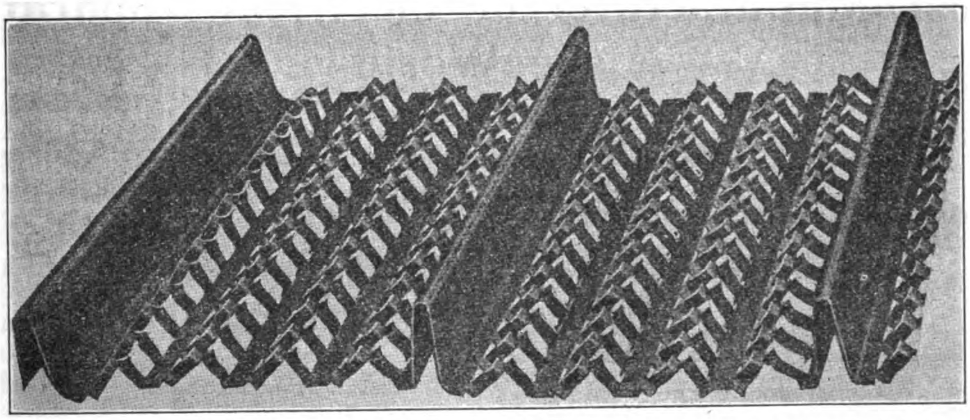
**MACHINE TOOLS**
Ludw. Loewe, A. G., Berlin.

**WAR VESSELS**
Stettiner Maschinenbau A. G. "Vulcan."

**HEAVY MACHINE TOOLS**
Niles-Bement-Pond Co., New York.

**BELTING**
Gandy Belting Co., Baltimore.

**DRILLING MACHINERY**
Davis Calyx Drill Co., New York.
Star Drilling Machine Co., Akron, Ohio.


HY-RIB USED EXTENSIVELY FOR WALLS, SIDINGS, ROOFS, PARTITIONS, SUSPENDED CEILINGS AND FURRING

**STEEL**
Jonas & Colver, Ltd., Sheffield.

**COTTON MILLING MACHINERY**
Asa Lees & Co., Ltd., Oldham.

**MOTOR BOATS**
Carl Meissner, Hamburg.

**DIESEL ENGINES**
Diesel Engine Co., Ltd. London.

ENGINEERING AND ELECTRICAL DEPARTMENTS

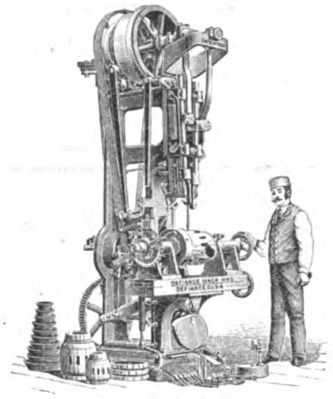
# "DEFIANCE" WOOD-WORKING MACHINERY

Invented and Built by

**THE DEFIANCE MACHINE WORKS**

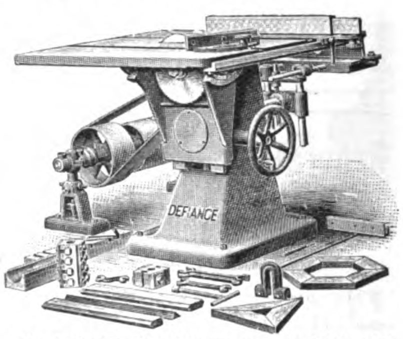
DEFIANCE, OHIO, U. S. A.

**Send for Catalogue**



No. 2 Hub Mortiser

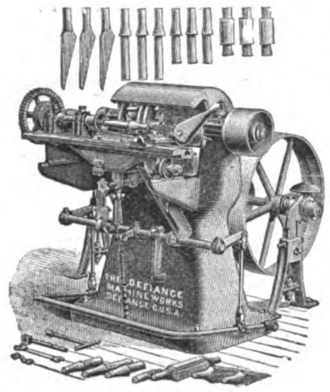
For manufacturing AUTOMOBILE WHEELS AND BODIES, Hubs, Spokes, Wheels, Wagons, Carriages, Rims, Shafts, Poles, Neckyokes, Single Trees, Hoops, Handles of all kinds, Bobbins, Spools, Insulator Pins, Table Legs, Balusters, Shoe Lasts, Oval Wood Dishes and for General Woodwork.



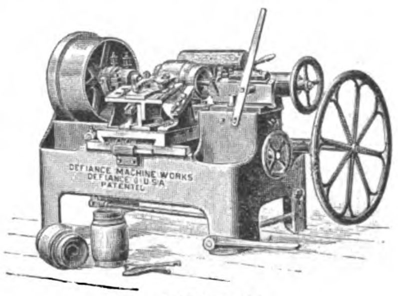
No. 8 Variety Sawing, Shaping and Cut off

**EASTERN AGENTS:**

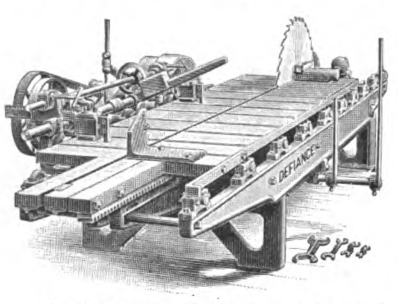
Schuchardt & Schutte, Shanghai | Mitsui & Co., Tokyo
Frank L. Strong, Manila, P. I. | London Office, 71 Queen St. E.C.



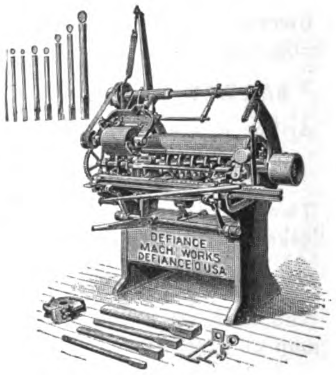
Insulator Pin Lathe



No. 1 Hub Lathe



No. 6 Short Log Saw Mill and Edger



Automatic Spoke Lathe

# *General Electric Company*

*PRINCIPAL OFFICE: SCHENECTADY, N. Y.*

## Largest Manufacturer of Electrical Apparatus in the World

The most extensive engineering and manufacturing resources in the world enable the General Electric Company to produce completely developed apparatus and accessories for the generation and transmission of electricity and its application to all lighting and power purposes -:- -:- -:- -:- -:- -:- -:- -:-

**Far Eastern Addresses:**

General Electric Company (Special representative for the Far East) 23 Water Street, Yokohama, Japan

Mitsui & Co., Tokio, Japan.

Bagnall & Hilles, Yokohama, Japan

Fearon, Daniel & Co. }
Anderson, Meyer & Co. } No. 4 Yuen Ming Yuen Road, Shanghai, China.

Frank L. Strong, Manila, P. I.

# California-Manila-Lumber Commercial Co.

Cable Address: "HOOPTON"

Codes: Western Union, Universal Edition—Lybo
A.B.C. 4th Edition—Century

Telephone 290
P. O. Box 782

IMPORTERS OF

## OREGON PINE REDWOOD

and all kinds of Hardware

Representatives of

Leading American Manufacturers of Machinery,
Building Material, Engineering Supplies, Etc.

Representatives of

**The Trussed Concrete Co.,** *Detroit, Mich.*
**Acetylene Apparatus M'fg. Co.,** *Chicago, Ill.*
**A. L. Canfield,** *New York City.*
**Contracting Plant M'fg. Co.,** *New York City.*
**Higgins Manufacturing Co.,** *Newport, N. J.*
**Lobee Machinery Co.,** *Buffalo, N. Y.*
**McCray Refrigerating Co.,** *Kendallville, Ind.*
**Morreau Gas Fixture M'fg. Co.,** *Cleveland, O.*
**Shoel Kopf, Hartford & Hanna Company,** *Buffalo, N. Y.*
**South Bend Chilled Plow,** *South Bend, Ind.*
**J. B. Wise & Co.,** *Watertown, N. Y.*

*Offices: 10-11-12 LACK & DAVIS Building, Calle Echague, Manila, P. I.*

CORRESPONDENCE SOLICITED

# Warner, Barnes & Co., Ltd.

## Manila, London, New York, Iloilo, Cebu, Albay, Samar, Leyte

**General Merchants, Insurance and Shipping Agents**
**Importers and Exporters**

**Steamship Agencies:**

International Sleeping Car & Express Trains Company
The Great Trans-Siberian Route
China & Manila S. S. Co., Ltd.
Bucknall S. S. Lines, Ltd.
Nippon Yusen Kaisha
White Star Line
Bibby Line.

**Express Companies**

China Express Co.
Geo. W. Wheatley Co.'s Express
United States Express Co.
Neale and Wilkinson Express Co.

**General Managers**

The Pasig Steamer & Lighter Co., Ltd.

**Insurance Agencies**

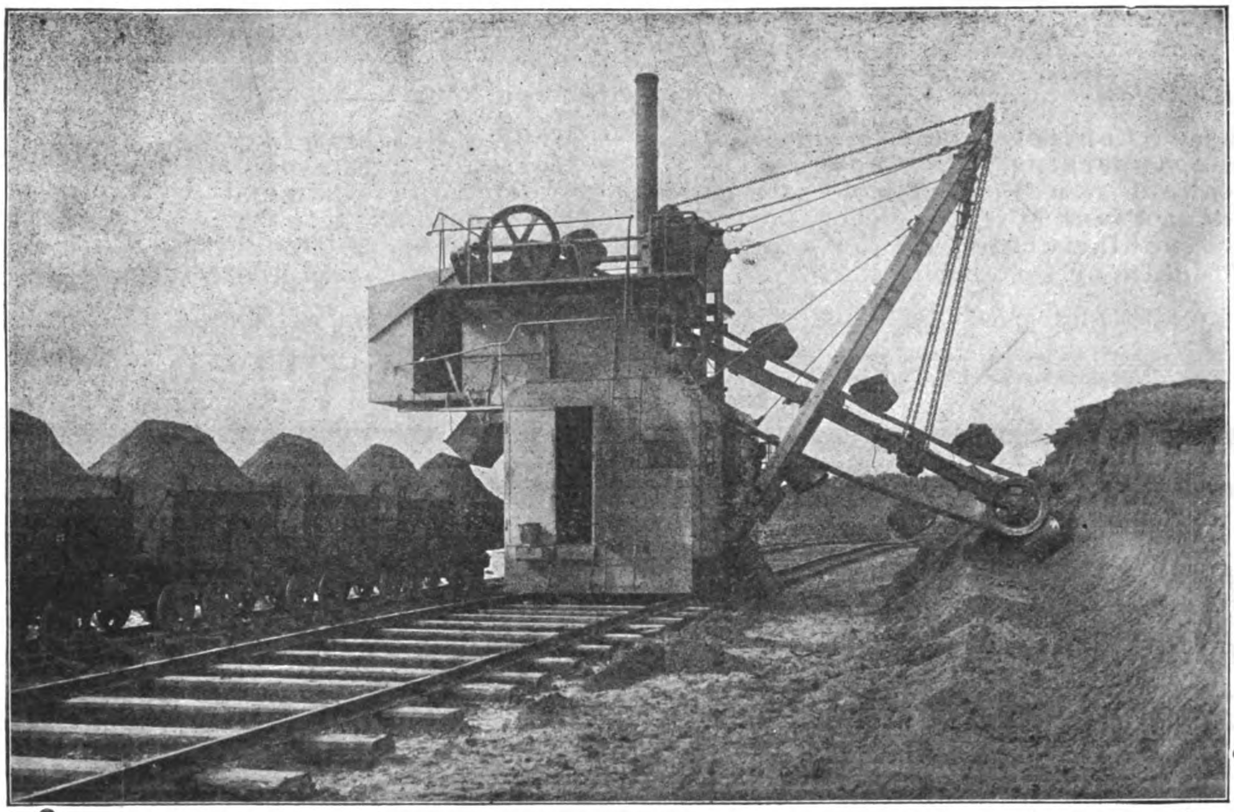
Royal Exchange Assurance Corporation
Law Union & Crown Insurance Co.
State Fire Insurance Co., Ltd.
China Fire Insurance Co., Ltd.
Maritime Insurance Co., Ltd.
Western Assurance Co.
Yangtsze Insurance Association, Ltd.
Tokio Marine Insurance Co., Ltd.
Manufacturers Life Insurance Co.

Telegraphic Address:—WARNER
P. O. Box 294
Tel. Nos. 228—104—610

No. 7 Carenero
MANILA, P. I.

# MACHINERY OF ALL KINDS

## RAILWAY MATERIAL AND SUPPLIES



RAILWAY EXCAVATOR

**AGENTS FOR:**

Felten & Guilleaume-Lahmeyer Werke, Frankfort/ Main, Electrical Supplies : : : :

Gasmotoren Fabrik Deutz, Cologne-Deutz, Original "OTTO" Gas and Oil Engines and Suction Gas Plants : :

Haniel & Lueg, Duesseldorf, Hydraulic and Mining Machinery, Heavy Steel Castings :

## SIEMSSEN & CO.

ENGINEERS & CONTRACTORS

SHANGHAI

HONGKONG, CANTON, HANKOW

TIENTSIN, TSINGTAU

*SPECIFICATIONS AND ESTIMATES GIVEN FOR INDUSTRIAL PLANTS OF EVERY DESCRIPTION*

All Kinds of Machine Tools, Pumps, Locomobiles, Oil Engines, Dynamos and Motors carried in stock at Shanghai

**AGENTS FOR:**

Orenstein & Koppel, Ltd., Berlin, Railway Material : : : :

R. Wolf, Magdeburg-Buckau, Patent Superheated Steam Locomobiles : : : : :

Weise & Monski, Halle/ Saale, Pumping Machinery : : :

# Montol Philippine Hardwood

The following are extracts from the report of Dr. F. W. Foxworthy, of the Bureau of Science, an authority on Philippine timbers:

"MONTOL

"It is a hard, heavy, even-grained wood. It should prove suitable for corner posts, bridge timbers, railroad ties, general construction and paving blocks."

Specific gravity:—
Maximum - - - - - - .8447
Minimum - - - - - - .761
Average - - - - - - .8081

Messrs. DERHAM BROS.
Manila, P. I.

Dear Sirs:—

I take pleasure in reporting that the MONTOL HARDWOOD, as furnished by you, has stood every test in actual construction that I have given it. I find it the equal of any of the superior hardwoods of the Islands. It does not split as readily as most of the hardwoods, and possesses the strength and durability of the best of same.

Very Respectfully,
(Signed) Wm. H. RUSHTON,
Master Mechanic
M. E. R. R. & L. Co.

Manila, P. I.,
April 14th, 1910.

MONTOL C.S.D. LUMBER

TRADE MARK

**We are offering this product at from 30 to 40 per cent less than the market price of woods of similar or inferior quality.**

EXTRACT from the report of Mr. Theobald Diehl, late Purchasing Agent of the Philippine Railway Co., and now Special Commissioner in Europe for the Customs Service of the Philippine Government, dated April 19, 1910, in re MONTOL PHILIPPINE HARDWOOD:

"I honestly believe that in this wood you have an article that will fill the long-felt want for a first-class, high-grade construction and finishing timber, which can be supplied in quantities and at a reasonable price.

"I bought 400 hewn telegraph poles of MONTOL, as supplied by you, and same were put into places at the Cebu division of the railway. This happened some four years ago. While recently at Cebu I looked over the poles very carefully; they are now in place over three years, and to my gratification, I want to say that they are in first-class shape. There is not the least defect noticeable, even at the point where the posts come out of the ground, that is, the place where damp rot and deterioration first set in. As a matter of fact, these MONTOL poles show better wear than a good many Ipil posts that we have in that division."

6 Duque de Alba **DERHAM BROS.** 'Phone 316

MANILA, P. I.

## CADWALLADER GIBSON LUMBER CO.

WHOLESALE AND RETAIL DEALERS AND EXPORTERS IN

## PHILIPPINE MAHOGANY

**Hardwood Timber for Bridge Construction and Railway Sleepers a Specialty : : : :**

We Own Two Big

## Sawmills and Furniture Factory

## Gibson Furniture

BLINDS, SASH, DOORS, ETC., MANUFACTURED BY

**Up-to-date Machinery**

OFFICE FIXTURES, SHOW WINDOWS, STORE FURNISHINGS, DESKS, ETC.

ESTIMATES FURNISHED

Yard Office . . . . . . { 302 CALLE SAN MIGUEL, MANILA
SIMAY, BATAAN, P. I

Cable Address: CAHOY

Codes: Western Union, Universal Edition; A. B. C.

## Export and Import Lumber Co.

SUCCESSORS TO

## The B. W. Cadwallader Company

P. O. Box 433 MANILA, P. I. Telephone 363

**Importers** of Oregon Pine Lumber

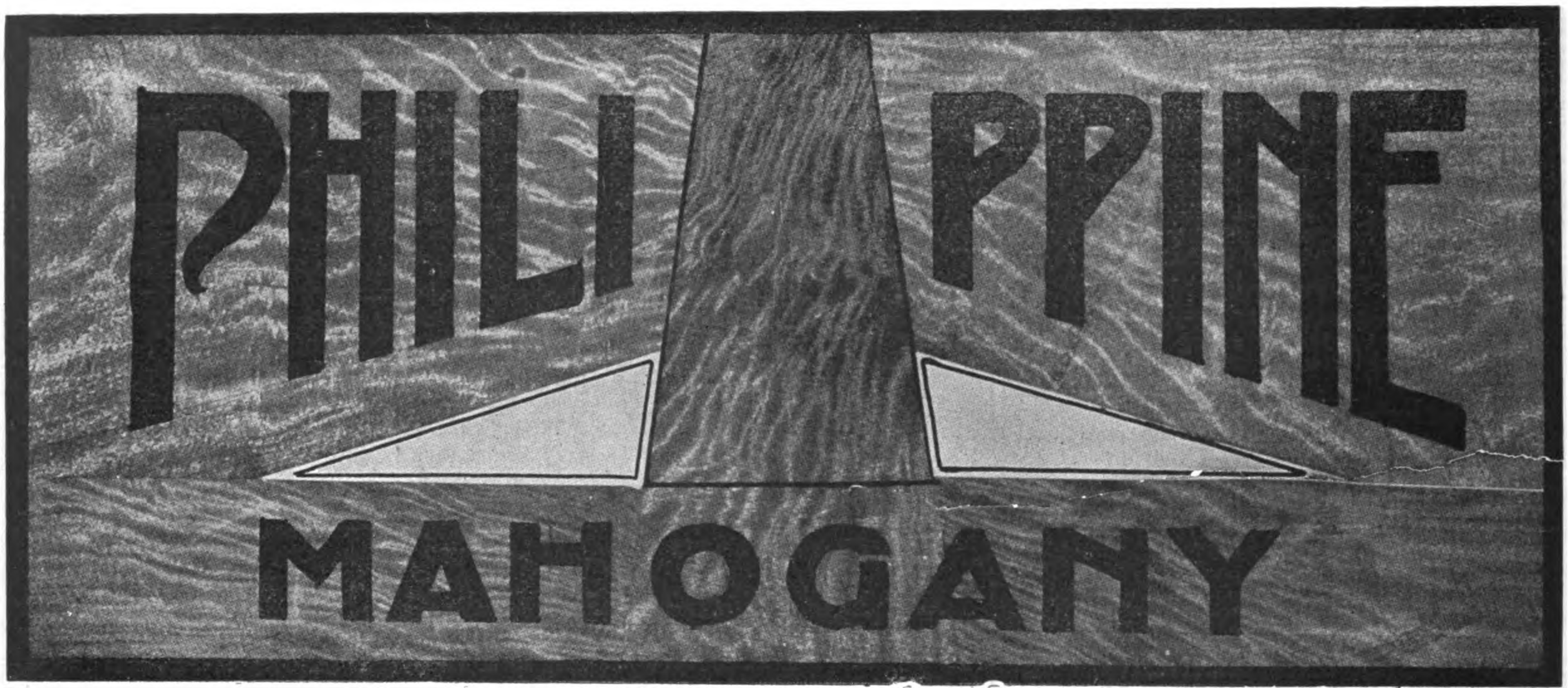
**Exporters** of Philippine Hardwood Lumber, Sleepers and Timber for Railroad Construction, etc. : : : : : :

**W. W. PAYNE**

President and General Manager

Mills and Office

51 CALLE TANDUAY MANILA, P. I.




FOR FURNITURE, CABINET WORK, INTERIOR TRIM, CAR BUILDING, ETC.

Location of Forests and Mill at Sagay, Negros Occidental, Island of Negros, P. I.

Capacity of Mill: 100,000 Ft. B. M. per Day

# INSULAR LUMBER CO.

Lack & Davis Bldg.
Calle Echague, Manila, P. I.

No. 20 Broad St.,
New York City

---

Cable Address:
"BANGA"—A. I. CODE

Main Office:
ZAMBOANGA, MINDANAO, P. I.

## The Port Banga Lumber Co., Inc.

**Mills: Port Banga, Sibugay Bay, Mindanao, P. I.**

We are cutting at present:

Yacal
Molave
Guijo
Lumbayao
Pagatpat

WHOLESALE ONLY!

Posts, Pilings, R. R. Ties, Bridge Timber, Telegraph Poles.

Telegraph Cross Arms, and Lumber cut to dimensions.

Temporary Piles of 4 Group timber 10 to 70 ft. long.

Permanent Piles of Liusin, Molave, 10 to 70 feet long.

Total amount cut and manifested 12 months ending October 1st, 1908, 3,034,651 Board Feet.

The Harbor at Port Banga, where largest Ocean-going vessels can enter, is safe at all seasons of the year and anchorage is good. Ships always promptly loaded and we give absolute guarantee that material will be delivered alongside as rapidly as ship can take it. Ship Charter can be based on these facts. One to two ships per month calling at Port Banga makes it possible to make prompt deliveries.

---

Telephone No. 551
P. O. Box No. 284

Cable address:
"GREILSAMMER"

## Greilsammer Bros.

### General Importers
### Wholesale and Retail Jewelers

Diamonds,
Jewelry,
Watches.
Sterling and
Plated Ware

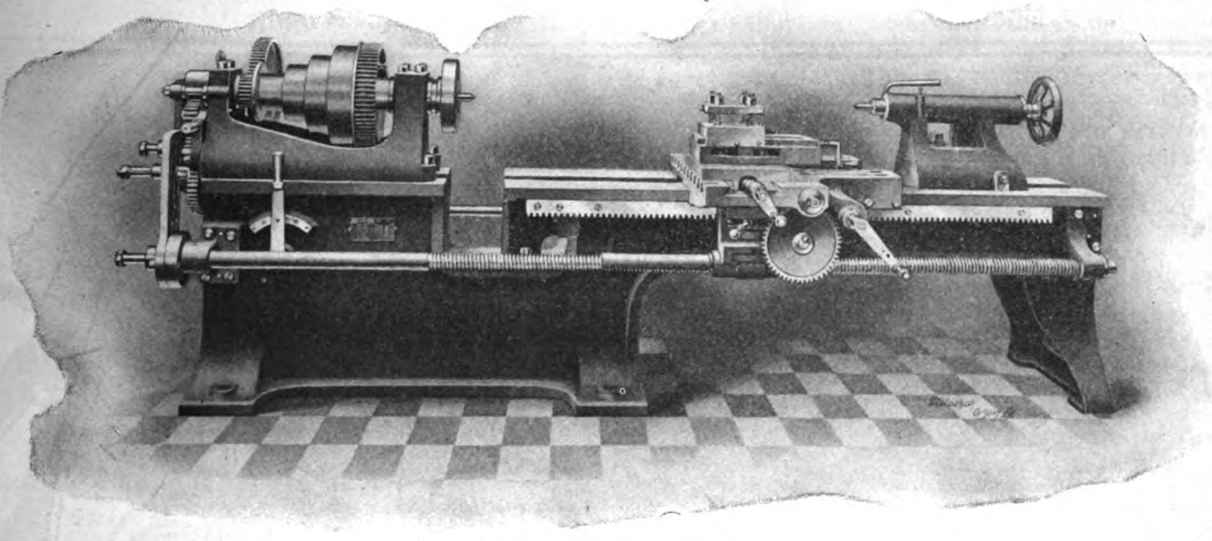
34-36 Escolta Manila, P. I.

# JARDINE, MATHESON & CO., LTD.

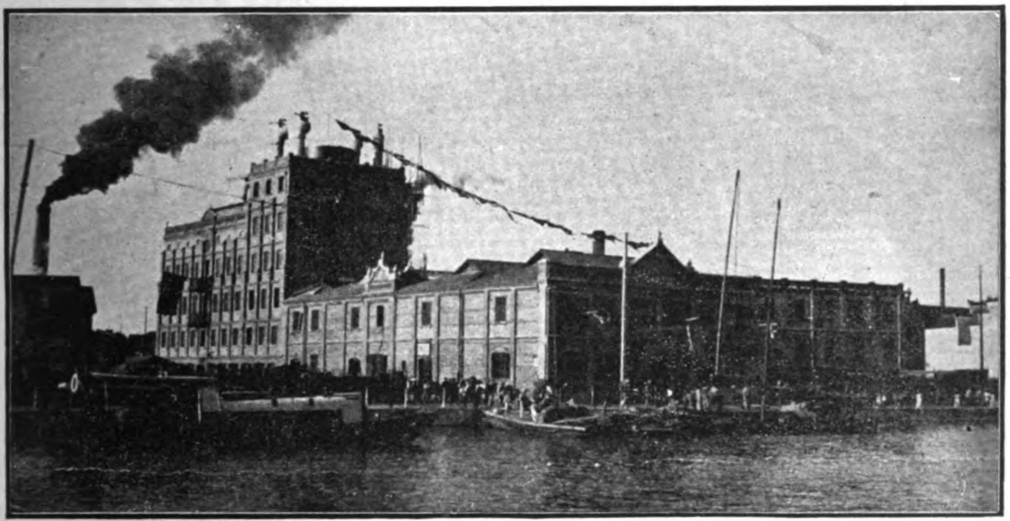
## HONGKONG AND CHINA

**MACHINERY DEPARTMENT**
**Peking Road, Shanghai**

**ENGINES, BOILERS, PUMPS AND ELECTRICAL MACHINERY FOR ALL PURPOSES, ENGINEERING AND ELECTRICAL SUPPLIES IN STOCK**



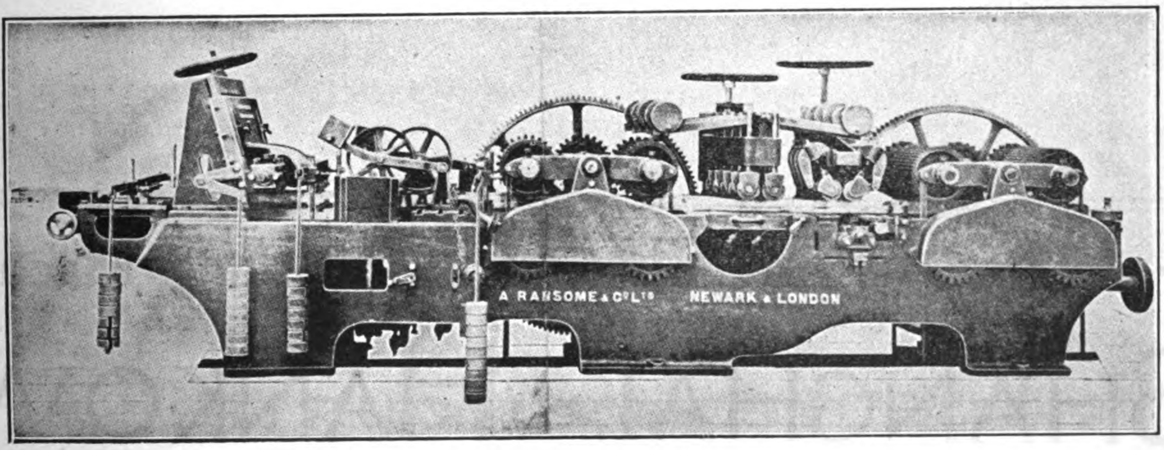
LATHES AND TOOLS OF ALL KINDS



YUEN CHUNG FLOUR MILL, SHANGHAI—MACHINERY FURNISHED AND INSTALLED—JARDINE MATHESON & CO.

**SOLE AGENTS FOR:**

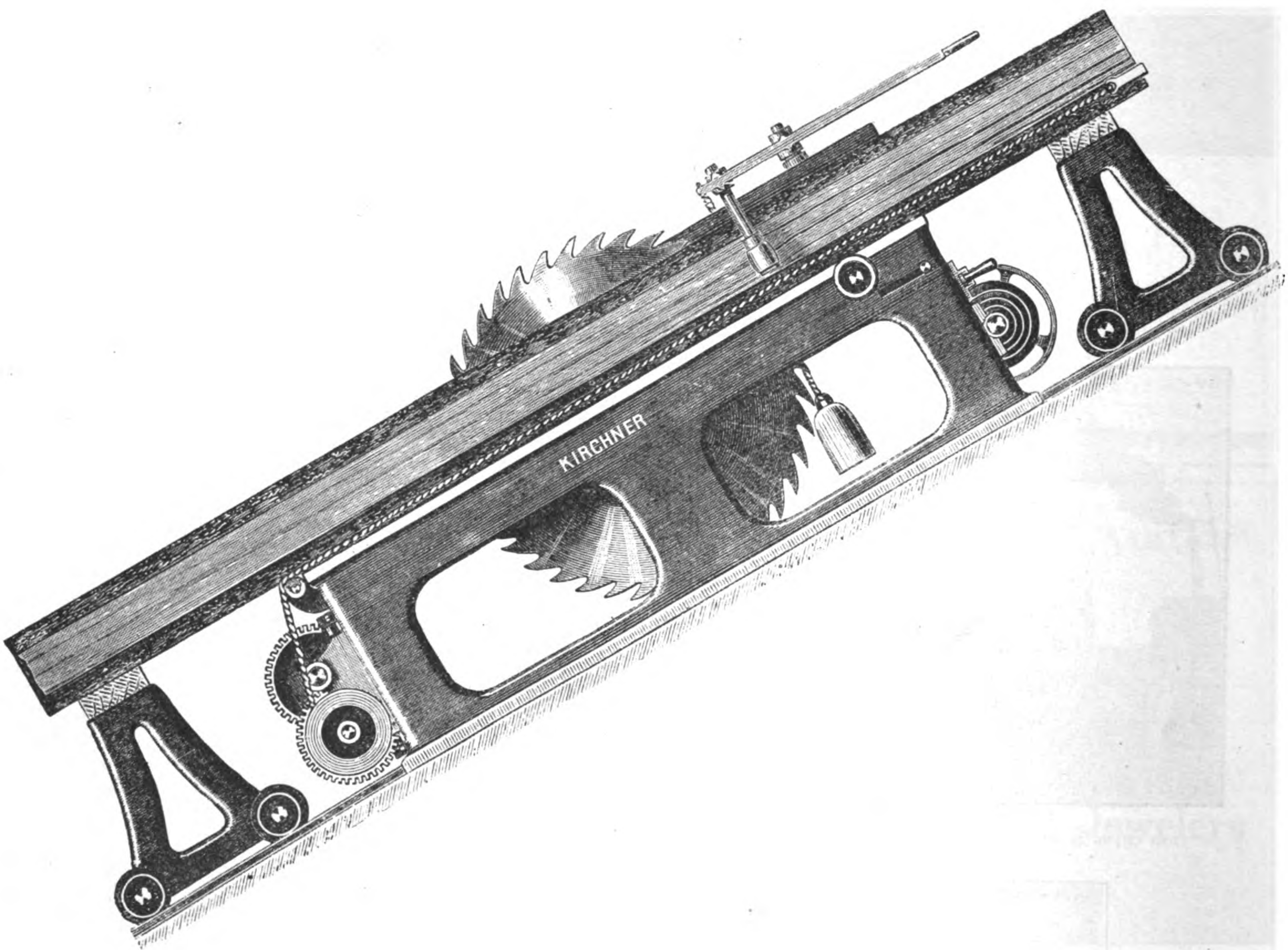
Messrs. Chas. Price & Co.
Messrs. J. B. White & Bros.
Messrs. Gwynnes, Limited.
Messrs. Marshall Sons & Co., Ltd.
Messrs. Merryweather & Sons, Ltd.
Messrs. A. Ransome & Co., Limited.
Messrs. Meredith Jones & Sons, Ltd.
Messrs. O. & W. Ormerod.
The Westinghouse Brake Co., Ltd.
Messrs. Bruce Peebles & Co., Ltd.
The British Northropp Loom Co.
Messrs. Joshua Hendy Iron Works.
Messrs. Henry Livesey, Limited.
The Barber Asphalt Roofing Co.
Messrs. Thos. & Wm. Smith, Limited
The Kitson Lights Foreign Supply Co.
North British Locomotive Co., Ltd.
Etc.




HIGH-SPEED FLOORING AND MATCH BOARDING MACHINE

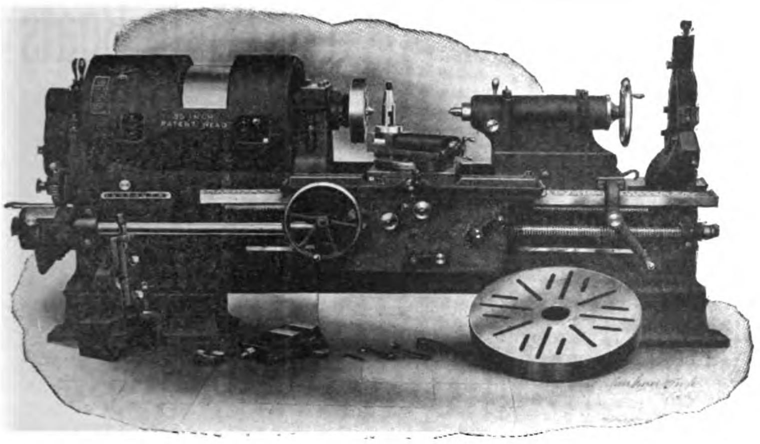
# SHANGHAI MACHINE COMPANY

Cable Address: "FERRO"




Large Stock of Kirchner's Wood Working Machines

## SHANGHAI, HANKOW



Electrotype No. 802 A-2

## Well Balanced Design

Why put great power into a lathe headstock if you cannot fully utilize it on account of light construction elsewhere? Yet during the past few years attention in lathe design has been directed principally toward the improvement of headstocks.

When we adopted the "Patent Head," with its immense power possibilities, we found it necessary to proportionately strengthen the other parts of the lathe. We made the bed wider and deeper; substituted drop forged steel for cast iron in the feed gears; gave the carriage more bearing upon the bed; strengthened the apron; shortened and widened the bridge; doubled the weight of the tailstock, and provided additional means for securing it in position.

The "Patent Head" Lathe as a whole has kept pace with the improvement of the Head.

**WE MANUFACTURE ENGINE LATHES WITH EITHER "PATENT HEAD" OR CONE HEAD IN SIZES FROM 7″ TO 24″ CENTERS. WRITE FOR CATALOG**

# The Lodge & Shipley Machine Tool Company

CINCINNATI, OHIO, U. S. A.

**FOREIGN AGENTS:**—*Chas. Churchill & Co., Ltd., London, Birmingham, Manchester, Glasgow, Newcastle-on-Tyne; Werner Hult, Helsingfors; Ernst Krause & Co., Vienna; V. Lowener, Copenhagen, Christiania, Stockholm; Alfred H. Schutte, Barcelona, Bilbao, Brussels, Cologne, Milan, Paris; Schuchardt & Schutte, Berlin, Budapest, St. Petersburg; R. S. Stokvis & Zonen, Ltd., Amsterdam, Rotterdam, Gronigen, Brussels; Andrews & George, Yokohama; Bevan & Edwards, Propty. Ltd., Melbourne; Adolfo B. Horn, Havana.*

**Agents wanted for territory in which we are not already represented.**

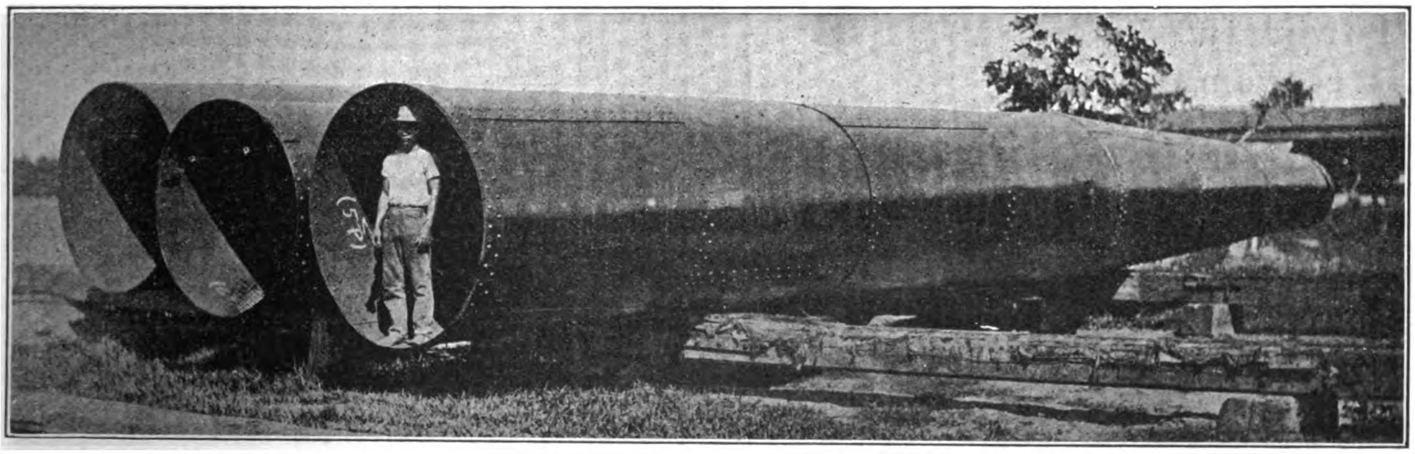
---

# ATLANTIC, GULF & PACIFIC COMPANY

(INCORPORATED)

## ENGINEERS AND CONTRACTORS

Offices: NEW YORK, SAN FRANCISCO, SEATTLE, MANILA



STEEL CYLINDERS FABRICATED AT THE COMPANY'S STRUCTURAL STEEL SHOPS AT MANILA

MANUFACTURERS OF

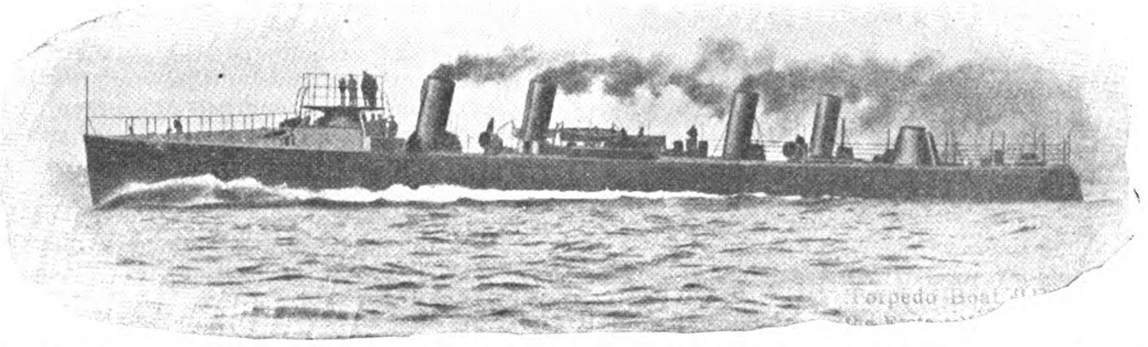
## STRUCTURAL STEEL

Manufacturers and Builders of
**STEEL BRIDGES, TANKS, PIPE LINES, WHARVES**

Manufacturers of
**RIVETS, BOLTS, NUTS, WASHERS, ETC., ETC.**

# Torpedo Boats, Destroyers, Yachts, Launches, Tow-Boats and "Auto Boats"

BUILDERS OF STEEL OR WOODEN CRAFT FOR ANY CLASS OF SERVICE



TORPEDO BOAT "BAILEY," THE FASTEST VESSEL IN THE UNITED STATES NAVY—205 FEET OVER ALL; 19 FOOT BEAM; 6 FOOT DRAUGHT; 235 TONS DISPLACEMENT; H. P. 5600; SPEED 30 KNOTS—BUILT BY THE GAS ENGINE & POWER CO. AND CHARLES L. SEABURY & CO., (CONSOLIDATED).

OUR "SPEEDWAY" LAUNCHES HOLD THE RECORD FOR SPEED AND ENDURANCE—RECORD BREAKING LAUNCHES:—ARGO, ARTFUL, THERE-SHE-GOES, ZIPALONG, JAPANSKY, WINNINISH, COLONIA, QUEEN, SKEETER

**HIGH SPEED TRIPLE EXPANSION ENGINES ARE OUR SPECIALTY**

WE HAVE BUILT THE U. S. TORPEDO BOATS "BAILEY," "WILKES" AND "STEWART," 31 KNOTS, ALSO SEVERAL HUNDRED YACHTS, WITH RECORDS FROM 10 TO 22 KNOTS.

TWENTY YEARS' EXPERIENCE IN THE DESIGNING, CONSTRUCTION AND EQUIPMENT OF VESSELS

**GAS ENGINE & POWER CO. and CHARLES L. SEABURY & CO., Consolidated**

**MORRIS HEIGHTS, New York City—Member National Association of Engine and Boat Manufacturers**

## FRANK L. STRONG, General Agent, MANILA, P. I.

CATALOG AND ESTIMATE ON APPLICATION

# Shanghai Gas Company, Ltd.

Offices: THIBET ROAD — Show Room: NANKING ROAD

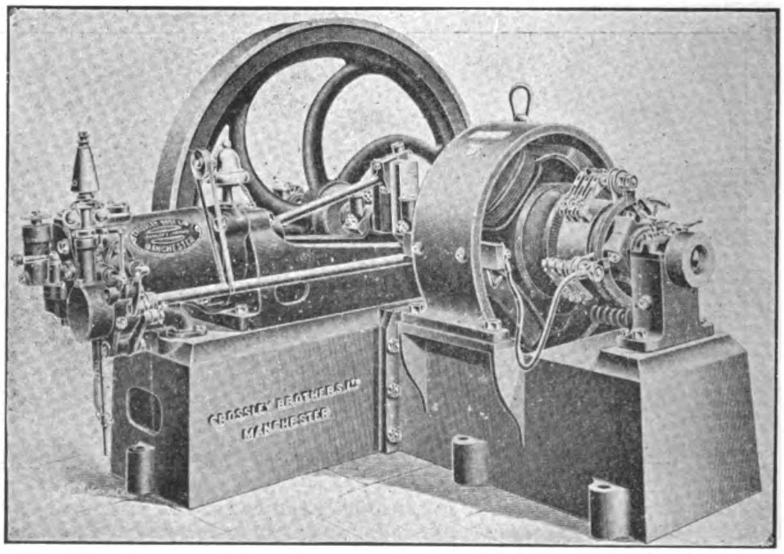
**To obtain Light, Heat or Power in the most economical way**

## USE GAS

The Shanghai Gas Company let on loan (free) Gas Cookers, Gas Fires and Radiators.
Also High Power Lamps and Geysers on hire.
Large assortment of Welsbach Gas Fittings always kept in Stock.

**APPLY FOR PARTICULARS**

威麟




4 KILOWATT PLANT, DIRECT CONNECTED TO CROSSLEY ENGINE

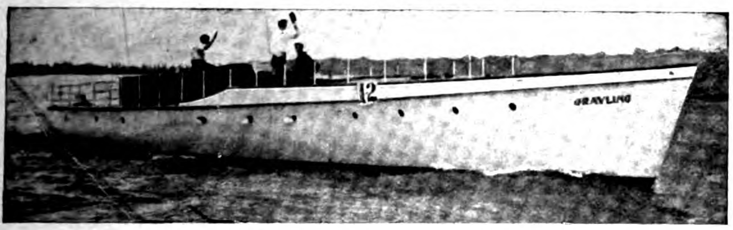
## Agents for CROSSLEY BROS.

**GRAY MOTORS are made in the largest and most up-to-date plant in the world devoted exclusively to the manufacture of 2-cycle marine motors.**

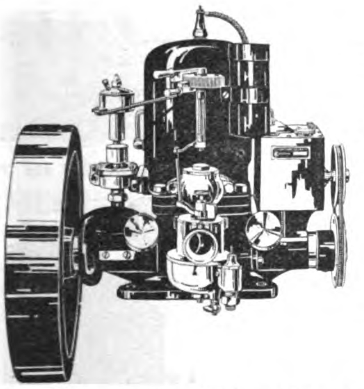
We build nothing in our plant but GRAY motors. Our plant was built and equipped to build GRAY Motors and *nothing else*.

We *concentrate* our entire attention, ability and capital to build the *best* motor it is possible to build, and sell it at a price that gives us the *greatest volume of 2-cycle marine business in the world*.

When you get a GRAY Motor, you get the benefit of all our concentration at a price made possible only by the enormous volume of our business.



*The Fastest Cruising Motor Boat in the World* of its length and beam, the yacht Grayling, is equipped with three GRAY MOTORS.



*Features of Gray Motors:*

- Fuel Economy.
- Long Life.
- Every part absolutely interchangeable.
- Mechanical pump lubricator.
- Sparl coil on cylinder.
- Starts without cranking.
- Long, high grade, interchangeable bearings, cylinder, piston, piston rings are ground to a mirror finish giving perfect compression. Ball thrust bearings.
- Oil ring on cranks, elevated gear driven commutator, bronze gear driven pump, Krice or Schebler carburetor.

*No other motor*, high price or low price, includes all these features.

1, 2 and 3 cylinders 3 to 36 horse power

*Heavy Duty Motors for Fishing Boats* and commercial purposes. Gray Motors are made in styles and sizes suitable for *any* boat under *any* conditions.

All prices of Gray Motors include complete marine and electrical outfits, with batteries all wired up, duplicates of parts subject to the most wear and complete outfit of high grade tools. The entire outfit is carefully packed in a water proof cover and excelsior and securely fastened in an iron bound box.

The Gray Motor Company maintains a Department of Foreign Service which gives every inquiry prompt, careful and courteous attention. Correspondence is conducted in any language. Write today for catalog and full information.

# GRAY MOTOR CO.

**88 Leib St., Detroit, Mich., U. S. A.**

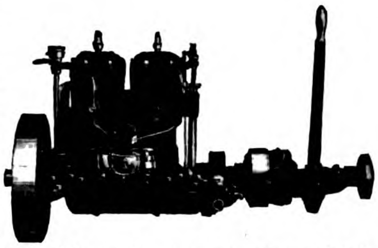
# FERRO

**The World's Standard Boat Motor**

In your choice of a motor boat, the deciding factor should be the engine. On it depends your ultimate pleasure and satisfaction in boating.

By choosing the Ferro Motor, you take no chance. You know that you are getting a marine engine which, in actual service, has proven itself the world's standard.

The Ferro design embodies the most advanced ideas in engine construction. The materials and workmanship that enter into every process of Ferro manufacture are up to the highest standard of quality.



Ferro motors are built to meet conditions in the Far East. They are today giving satisfaction in all parts of the world.

Write us for full information on boats, motors and equipment. We can help you select your exact requirements. Ferro literature sent free on request. A complete line can be secured from the nearest office of this paper.

**We Want Agents**

We still have some favorable territory for which we have no selling agents. If you are in a position to take up the sale of Ferro Motors, write us in full.

The Fastest Boat in Auckland Harbor, New Zealand, Equipped with 25-HP Ferro Engine

**THE FERRO MACHINE & FOUNDRY COMPANY**

Largest Marine Engine Builders in the World.

Main Offices, 820 Superior Ave., Cleveland, O., U. S. A

New York Office, 44 Cortlandt St., 2nd Floor

# IMPROVED AUTOMATIC WRENCH

Self-adjusting, works automatically on pipes, rods and nuts. Strongest, simplest and handiest wrench ever made. Grips instantly, the harder the pull the tighter the grip. Especially suitable for Machine shops, Garages and Dock Yards. Made in the following sizes:

| | | | | |
|---|---|---|---|---|
| 6 in. | opens to | 7/8 in. | Price | 2s. |
| 9 in. | " | 1 1/8 in. | " | 3s. |
| 12 in. | " | 1 1/2 in. | " | 4s. |
| 16 in. | " | 2 in. | " | 5s. |
| 20 in. | " | 2 1/2 in. | " | 6s. |

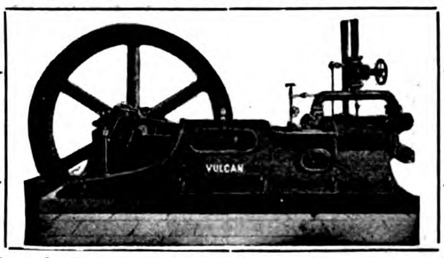
Sample wrenches sent prepaid on receipt of Money order.

IMPORTERS, DEALERS and AGENTS. The "Superior Wrench" is in use throughout the United States and in many foreign countries. Write for our special offer and printed matter.

**SUPERIOR WRENCH CO., Marshalltown, Iowa, U. S. A.**

# ICE MACHINES

**OF ANY DESIRED CAPACITY**

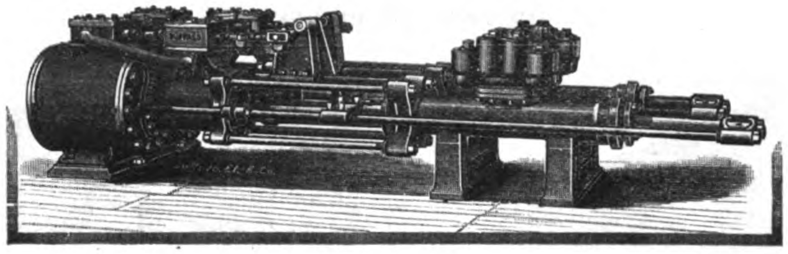
**VUL**  **CAN**


# VULCAN IRON WORKS

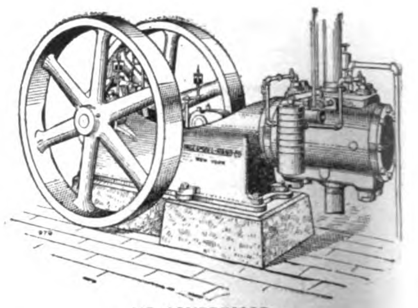
**San Francisco, California, U. S. A.**

SEND FOR CATALOGUE Cable Address: "VULCAN" San Francisco

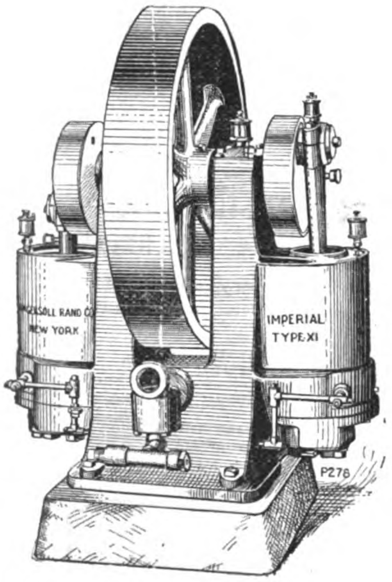
BUNDY HEATER



MINING PUMP



AIR COMPRESSOR




AIR COMPRESSOR


# *Machinery and Engineering Supplies*

## Railway Materials, Electric Light and Power Plants

**GENERAL ELECTRIC CO., N. Y.**
Electric Machinery.

**BRITISH THOMSON-HOUSTON CO.,**
Electric Railway & Power Plants.

**GOULD'S STORAGE BATTERY CO.,**
Electric Storage Batteries.

**THE McCONWAY & TORLEY CO.,**
Janney Railway Couplers.

**DEMPSTER, MOORE & CO.,**
Machine Tools.

**H. W. JOHN'S-MANVILLE CO.,**
Asbestos Materials.

**THE DE LA VERGNE MACHINE CO.,**
Refrigerating Plants.

**WHEELER CONDENSER & MACHINERY CO.,**
Condensers, etc.

**THE AVERY MANUFACTURING CO.,**
Traction Engines, etc.

**KEUFFEL & ESSER CO.,**
Engineers & Surveyor's Supplies.

**KELLOG SWITCHBOARD & SUPPLY CO.,**
Telephone Apparatus, etc.

**GREAT NORTHERN ELECTRIC CO.,**
Telegraph Instruments, etc.

**ESTIMATES AND QUOTATIONS ON APPLICATION TO**

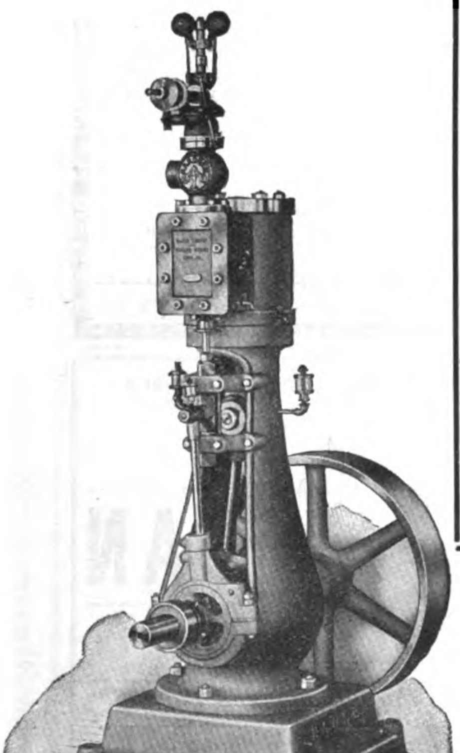
# FEARON, DANIEL & CO.
# ANDERSON, MEYER & CO.

**SOLE REPRESENTATIVES -:- ENGINEERING DEPARTMENT**

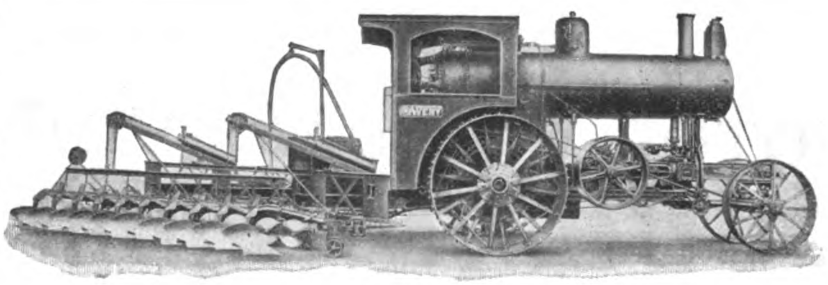
**SHANGHAI, 4-5 YUEN-MING-YUEN ROAD**

COMPRESSED AIR DRILL

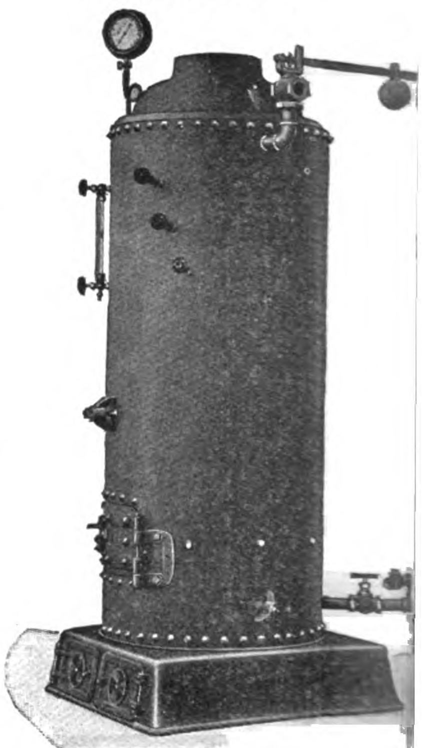
COMPRESSED AIR DRILL



VERTICALENGINE



STEAM PLOW



VERTICAL BOILER

# VELUVINE

BULLDOG-PAINTS AND VARNISHES

BULLDOG-brand.

F. A. v.D. LOO & Co Shanghai

## IS THE PAINT OF THE FUTURE

## For Out and Indoor Work of Every Kind

RAILROADS
TRAMWAYS
BARRACKS
RESIDENCES
SCHOOLS
YACHTS
STEAMSHIP
COMPANIES
HOSPITALS
HOTELS
BUILDINGS
FACTORIES

A NEW and perfected Veluvine paint superseding Varnish, with remarkable spreading, elastic and weather resisting properties. **One coat equals two coats of common paint and one of varnish.** Sanitary. Washable. Will not crack. Will not peel. Will not blister. Will not fade. Twelve months' guarantee given by the manufacturer. Saves Time, saves Labour, saves Varnish, saves Money.

**ONE GALLON PROPERLY APPLIED WILL COVER ABOUT 90 SQUARE YARDS**

Veluvine paint spreads like best wearing body Varnish, and **dries slowly** in the same way, but is far more elastic, and therefore does not crack, as even the best Varnishes will. **Veluvine paint is not an enamel,** and should not be compared with enamels for price. It is much **more economical, more durable** and covers **more surface**. Veluvine paint is the only satisfactory paint for Galvanised Iron and Galvanised Steel.

Any colour not included can be matched. Special quotation on application with sample of exact tint required.

## Prices Quoted on Application

General Agents for CHINA, JAPAN, SIAM

# F. A. VANDER LOO & CO.

2 JinKee Road ❧ Shanghai, China ❧ Telephone 2530

*Agents for the Philippines: Messrs. SPRÜNGLI & CO.*

# A PERFECT BOILER FEEDER

THE

# PENBERTHY

## Automatic Injector

This Injector takes the place of steam pumps (costing less) and taking up less room. It operates between pressures of 25 and 170 pounds. Lifts vertically 22 feet and handles hot water 125 deg. Fahr.

SALES 550,000 in the United States and Foreign Countries. Send for Catalog

## EJECTOR

Can be used wherever water or other liquids are to be raised or lifted and transferred to different levels.

LIFTS 25 FEET
ELEVATES 100 FEET

Agents wanted in every Country

PENBERTHY INJECTOR COMPANY

LARGEST INJECTOR MANUFACTURERS IN THE WORLD

DETROIT, MICHIGAN - - - - - U. S. A

356 Holden Ave.

AGENTS:

W. H. WILCOX & CO., London, E. C.

JOHN KING & CO., Calcutta.
MALCOMESS & CO., East London, S. A.

# Swift's Silver Leaf Lard

Is known throughout the world wherever a pure lard is in demand.

Swift's Silver Leaf Lard is always of uniform high quality, the standard of purity first set being always maintained.

Put up in 3-lb., 5-lb. and 10-lb. tin pails.

Swift & Company, U. S. A.

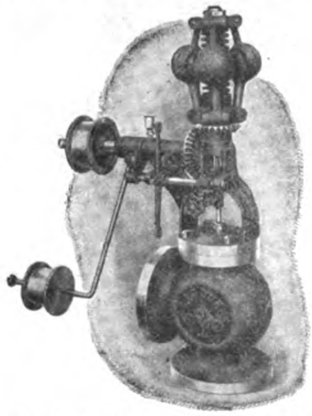
ORIENTAL HEADQUARTERS

SWIFT & COMPANY - - - - - No. 32 Nanking Road, Shanghai
WM. H. ANDERSON & CO., - - Foot Santa Cruz Bridge, Manila



# AIR COMPRESSORS

## STEAM PUMPS
## GOVERNORS



GARDNER GOODS

Governors, Steam Pumps, Air Compressors. This cut shows our new wide range governor—latest and best yet. With this governor you can get an extreme variation of 400% in engine speed. Seems incredible but a fact nevertheless which we guarantee. Durable and sensitive.

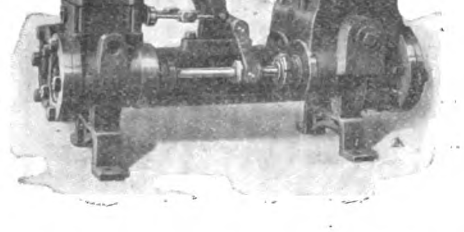
GARDNER DUPLEX STEAM PUMPS

The best of the American makes. Strong, durable and efficient. Larger valves and piston rods than used on any others. Always reliable and satisfies the users.

AGENTS WANTED
WRITE US

The Gardner Governor Company

QUINCY, ILLINOIS



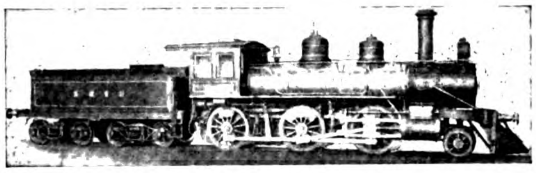
SEE OUR ADVERTISEMENT OF GARDNER AIR COMPRESSORS IN NEXT MONTH'S ISSUE



# Baldwin Locomotive Works

Principal Offices and Works:
PHILADELPHIA, PA., U. S. A.
Cable Address: "Baldwin, Philadelphia"

*Agents for China:* ARNHOLD, KARBERG & CO.
*Agents for Japan:* FRAZAR & SALE, Yokohama



Builders of LOCOMOTIVES of every description

Including ELECTRIC LOCOMOTIVES ELECTRIC TRUCKS



# Standard Steel Works Co.

HARRISON BLDG., PHILA., PA., U. S. A.

SOLID FORGED AND ROLLED STEEL WHEELS

STEEL TIRED WHEELS, FORGINGS

STEEL AND IRON AXLES, CASTINGS

ELLIPTIC AND HELICAL SPRINGS

# THE FAR EASTERN REVIEW

COMMERCE ◈ ENGINEERING ◈ FINANCE

VOL. VII. MANILA, P. I., SHANGHAI, AND YOKOHAMA, JULY, 1910 No. 2.


# RAILWAYS IN CHINA, 1910

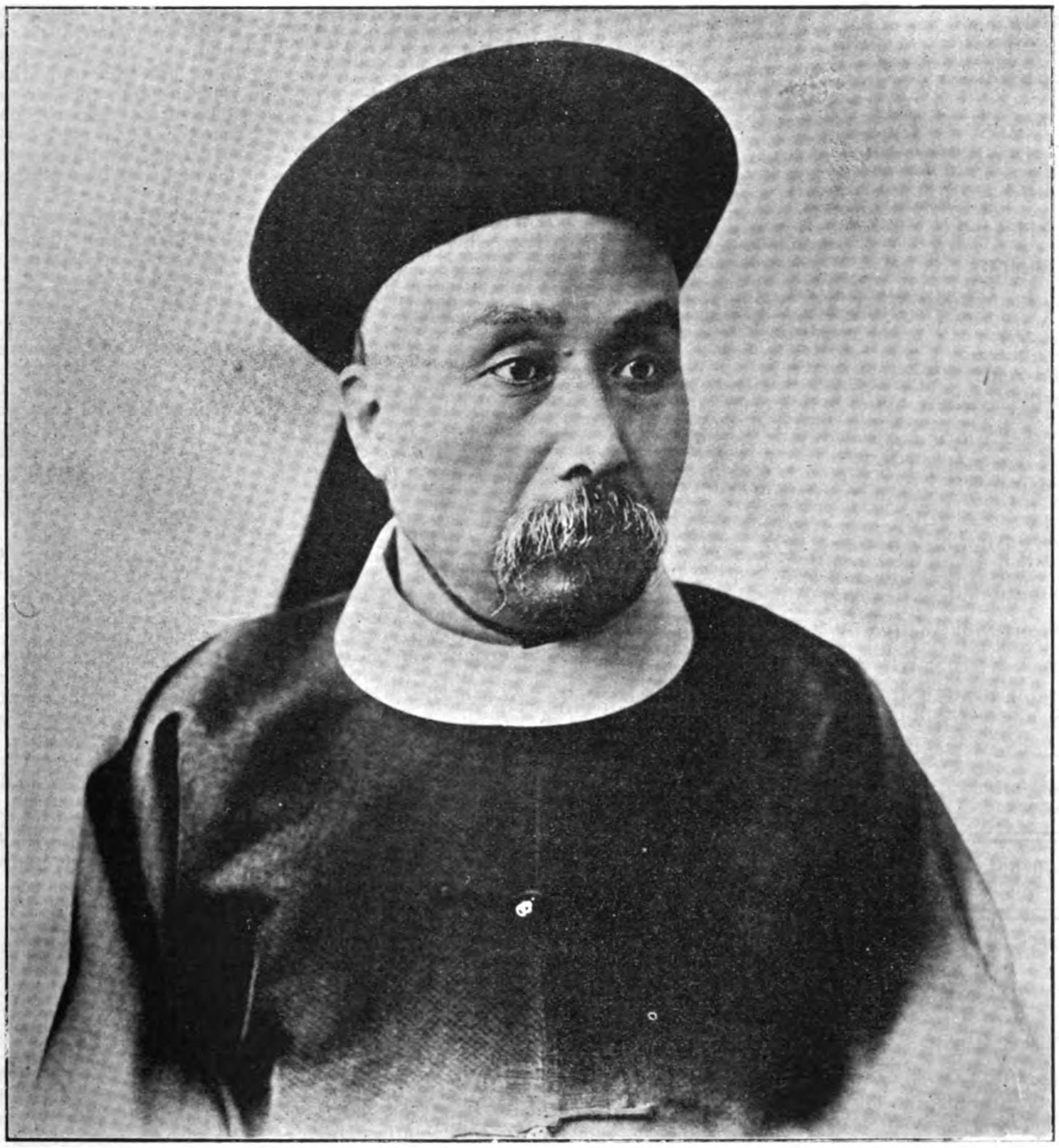
SUN NING RAILWAY EXTENSIONS

*(From Our Own Correspondent)*

Recently our correspondent in Southern China took a trip over the Sun Ning Railway in Sun Ning County, Province of Canton, and writes us that he left Canton on the railway company's launch "Sun Ning" in company of Mr. Chin Gee Hee, president and manager of the road, and after a most enjoyable eleven hours' launch ride of one hundred miles on the West River and some of its many tributaries arrived at Kwong Yick on the On Sui How River, the present northern terminal of the Sun Ning Railway, and thence by special train, after dark, was taken over the road eighteen miles to the city of Sun Ning, the principal city on the line of the road and the largest city in Sun Ning County, where the head offices of the company and the home of Mr. Chin Gee Hee are located. This distance of eighteen miles was covered on the train in less than forty minutes including a short stop at Shui Boo. The writer was well housed and cared for that night at Sun Ning by his genial host.

The next morning a flying trip was made over the road to Tao Shun, the present southern terminal of the road some twenty-one miles south of Sun Ning and within three and a half miles of Sam Kap Hoi River. This intervening strip of three and a half miles is now being graded preparatory to laying the roadbed down

*(Continued on page 41)*



H. E. HSU SHIH-CHANG

PRESIDENT OF THE BOARD OF POSTS AND COMMUNICATIONS

# THE FAR EASTERN REVIEW

**GEO. BRONSON REA, M. E.**

**PUBLISHER**

**WILLIAM CROZIER, Editor.**

**COMMERCE :-: ENGINEERING :-: FINANCE**

A Monthly Review of Far Eastern Trade, Finance and Engineering, Dedicated to the Industrial Development and Advancement of Trade in the Philippines and Far Eastern Countries

**PUBLICATION OFFICE:**

MANILA, PHILIPPINE ISLANDS

**HEAD OFFICE**

WHITEAWAY LAIDLAW BUILDING

Shanghai

**UNITED STATES REPRESENTATIVES:**

J. ROLAND KAY CO.

Teutonic Building, Chicago, Ill.

**GREAT BRITAIN:**

PROBSTHAIN & CO.

14 Bury Street British Museum, London, W. C.

**SUBSCRIPTION AGENTS:**

| | |
|---|---|
| HONGKONG............... | KELLY & WALSH, LTD. |
| SINGAPORE.............. | " " " " |
| YOKOHAMA.............. | " " " " |
| SHANGHAI............... | " " " " |
| TIENTSIN................ | TIENTSIN PRESS, LTD. |
| WASHINGTON, D. C..... | BRENTANO'S. |

**SUBSCRIPTION RATES:** Philippines, United States, Canada, and Mexico, $2.50 U. S. C. per year. To all other countries in the Postal Union, $3.00 per year. Single copies 25 cents, U. S. C.

**ADVERTISING RATES** will be mailed on application.

Communications pertaining to the Editorial Department should be addressed to THE EDITOR.

ENTERED AT POST OFFICE, MANILA, P. I., AS SECOND CLASS MATTER.

**MANILA, SHANGHAI, AND YOKOHAMA, JULY, 1910**


CONTENTS


| | Page |
|---|---|
| Railways in China, 1910 | 37 |
| Sun Ning Railway Company | 37 |
| The Russo-Japanese Convention | 38 |
| Japan's Colonial Bureau | 39 |
| China's Need of Constructive Encouragement | 39 |
| Study of Trade Conditions in Orient | 40 |
| Railways in Anhui | 42 |
| Canton-Hankow Railway | 48 |
| Hongkong-Canton Railway | 49 |
| Changwei Railway—Kalgan-Suiyan Extension | 50 |
| Steam Development | 50 |
| The Macao Boundary Dispute | 51 |
| The Ferro Motor | 53 |
| Pioneer Mining Enterprise in China | 54 |
| Osaka Shosen Kaisha | 56 |
| Contracting News | 56 |
| Far Eastern Railway News | 57 |
| Philippine Mining News | 59 |
| Personal and General | 60 |
| Japanese Emigration to Brazil | 60 |
| Publications Received | 60 |
| Far Eastern Engineering, Construction, Commercial and Financial News | 60 |
| London Metal Market | 63 |
| Hemp Statistics | 63 |
| Far Eastern Share Quotations | 64 |


## THE RUSSO-JAPANESE CONVENTION

The announcement is made that the much discussed Russo-Japanese convention was signed July 4 and that it would be promulgated later. The terms of the convention at this writing has not been made public and as a result there is much speculation as to their nature. The French press is generally of the opinion that it preludes the incorporation of Korea in the Japanese Empire and applauds the convention as another link in the chain of friendship now existing between Britain, France, Russia and Japan. No reference is made definitely to its terms. The *Jiji Shimpo* states on authority that the agreement guarantees the integrity of the Chinese empire; pledges both sides to respect the terms of their treaties; to maintain the status quo in Manchuria; to maintain the vested rights of the high contracting parties and to consult together with regard to the course to be pursued in the event of an attempt to impair those interests by any third power. The *Asahi* states that the convention was necessary to cover all points of difference or misunderstanding not covered by the Portsmouth treaty or the *entente* of 1907.

The Chinese press is unconvinced of the sincerity of purpose of either the Russians or the Japanese and have generally accepted the convention as a definite reply to the proposals of Secretary Knox and antagonistic to Chinese jurisdiction in Manchuria. A cablegram from London accredits General Ying Chang, who was recently appointed to succeed H. E. Tieh-Liang as President of the Ministry of Army Affairs, with a statement in the *Times* to the effect that an alliance with the United States is the only means by which China may extricate herself from her present dilemma. A correspondent of *Manila Times* wires an interview with H. E. Chang Yin Tang at Washington to the effect that he is in accord with the statement of General Ying Chang and that China looks to America to save her from the encroachment of European powers and Japan.

All this is the direct outcome of the announcement that the Russo-Japanese convention had been signed and without the publication of the official copy.

The Hon. Matsuda Masahisa, one of the leaders of the Seiyu-Kai, in an interview published in the *Asha Shimbun*, states that he believes the convention will have the effect of extending the usefulness of the Anglo-Japanese, Anglo-French, Anglo-Russian and Franco-Russian treaties, but he appears to think that the preservation of the vested interests of Russia and Japan in Manchuria is not desirable in American eyes He has confidence, however, that diplomacy will be able to avert any complication in that quarter.

There is also an element disposed to criticize the attitude of the American State Department who points out that the convention is another step towards the exclusion of America from any concerted action of the powers relative to the adjustment of Far Eastern questions and that the responsibility for such anti-American activity rests with Secretary Knox and his neutralization proposals. They point to the fact that Germany alone, of all the European powers, is not included in the circle of co-operative treaty-bound powers, and find evidence in the recent publication of a private letter of the Kaiser that there is an effort being made on the part of the British to create illfeeling between Germany and America over the Venezuela incident.

There is reason to believe, however, that the purpose of an agreement between Japan and Russia must lie in the protection of their legitimate interests provided by treaty with China, and as satisfied parties to these agreements, they propose to unite in an endeavor to prevent any attempt at interference that might result in their abrogation. It would seem that all the misunderstandings growing out of the engagements entered into with Russia and of those sections now undertaken by Japan, are due mainly to the spirit of interpretation of the terms thereof. That China is suspicious of ulterior motives on the part of both Russia and Japan and that Russia and Japan have indicated that they are not convinced of the unselfishness of America in her neutralization proposal, seems to be generally admitted. And so it may be taken for granted that the recent convention between Russia and Japan may not be considered as other than an understanding between the two powers to stand together on matters affecting their respective interests in Manchuria which after all are one and the same.

We believe the convention should serve to advance the adjustment of the Manchurian question. With the main issues of dispute between the two interested powers settled, and all basis for suspicion of each other removed, it is not improbable that conditions will now be more favorable for either country to live up to the spirit of their agreements with China and the understanding as to China's integrity and the open door policy. So long as Russia and Japan maintained an attitude of suspicion towards each other, their obligations with respect to China's sovereignty were relegated to second consideration. By the convention, and the removal of this suspicion of each other, these features should be advanced to first consideration.

As to America's attitude, there is no reason to believe that she will not welcome the convention, provided she is satisfied that it will tend to the better recognition of China's rights in Manchuria and that it will not endanger the principle of the open door. If we are to assume that the *Jiji Shimpo* has given us a truthful resume of the terms of the convention, then the contracting parties have renewed these pledges. And we have the satisfaction of knowing that both countries are now in a better position than ever to fulfil them.

The American attitude towards Japan's Manchurian policy may be summed up in the words of a special to the *New York Journal of Commerce* from Tokyo that concluded as follows:

"Of course, the so called open 'door' in Manchuria is as open now as it ever was, the only important difference being that the number of entrants is so large that room for simultaneous admission is rather difficult to find. The superior advantage undoubtedly possessed by the Japanese is only natural. But it is not any greater advantage than Americans would have over Japanese in Alaska or Oklahoma. Japan's intimate knowledge of the country and population, her familiarity with the language and customs, her big cotton market close at the Manchurian door, her first hand acquaintance with Japanese shipping peculiarities, all these give her a natural advantage over outsiders, which her merchants will be loath to share. But Japan offers the foreigner every facility for the opening of trade relations in Manchuria, and the ports of the country are free to the ships of all nations. Japan will not, of course, do anything .to encourage the predominance of foreign interests over those of Japanese subjects. She knows well the advantage the foreigner command in his possession of unlimited capital; but with her cheap labor and predominant position she has a good hope of meeting the certain competition to an encouraging extent. The very last thing she could desire would be the commercial or political ascendancy of any other country in Manchuria. Whether upon the expiration of the present treaty in respect to railways in Manchuria Japan will have lost any of her prestige in that region, or will be ready to hand her railway interests over to China, are questions the future alone can solve."

Mr. Zumoto, writing for the *Independent*, presents Japan's attitude towards the open door and the preservation of China's integrity. He says:

"The charge that Japan, acting in concert with Russia, intends to exclude the world from north China is peculiarly galling to us, because we are scrupulous by adhering to the principles of the open door and equal opportunity in Manchuria and elsewhere. In spite of the chronic crusades conducted through the press against Japan's good faith in this respect, there is not a single authenticated instance of the actual violation of the open door principle on the part of Japan."

And again, he says:

"What has that war done for Manchuria? Japan has naturally succeeded to all the legitimate rights and privileges formerly possessed by Russia, namely, the lease of Liaotung Peninsula and the railway concession south of Changchung. Apart from that Manchuria has been completely restored to China, this being the case not only in the south but also in the north. All the troops, other than the legitimate railway guards, have been withdrawn by Japan and Russia from all parts of Manchuria, which is now policed, garrisoned and ruled by China without any interference from either of her neighbors. In other words, conditions in Manchuria have been brought down to the strictly legitimate treaty basis.

"It will thus be seen that whatever autonomy China now enjoys in Manchuria—and it is complete outside the railway zone—China owes not to any exertion on her part but entirely to Japan.

"Were it not for Japan the whole of Manchuria down to the Great Wall would long since have been incorporated into the Russian Empire. Where would the open door have been then? That it is still possible to talk of the open door in Manchuria at all, is due to Japan and to Japan only. We do not want the world to feel grateful to us; all that we ask is that contemporary history be read with a reasonable degree of candor and intelligence."

Russia has also emphatically denied any attempt to violate China's sovereignty in Manchuria, and now that both countries have again subscribed their former pledges and propose to act in concert, there ought to be greater promise than ever before of their sincerity. If the Russo-Japanese convention succeeds in bringing assurance to China and the other powers interested of the sincerity of the contracting parties, then much has been accomplished in a most desirable manner and in the right direction.

## THE JAPANESE COLONIAL BUREAU

The *Official Gazette* of June 20th publishes the organization of the Japanese Colonial Bureau which will assume charge of the affairs of Formosa, Saghalien and Korea as well as the leased territory of Liaotung. The Marquis Katsura has been appointed President and Baron Goto, Vice-President. The staff will include nine other officials of high rank. This departure was believed to be necessary owing to the important factor the different colonies were assuming in national affairs. The inclusion of Korea is significant in view of the rumors of annexation of that territory that have been given circulation followed by the Russo-Japanese Convention in which it is alleged that an understanding satisfactory to Japan regarding Korea was arrived at.

The *Japan Mail* in commenting on the organization of this bureau states that the Japanese press devotes space to the abbreviated histories of the progress of colonial administration in the principal Western countries. They arrive at the conclusion that in Japan's present condition her most suitable model is to be found in Spain, where the Colonial Bureau forms a section of the Cabinet as in the case of the newly organized Taku-shoku Kyoku. England, as is her custom, gradually evolved her colonial system from the teaching of her own experiences, and it is perhaps owing to that method of selection, not less than to the genius of her people for colonization that she owes the remarkable success which has attended her efforts. But Japan is without any experience of that sort. She had a colony once in Siam, and handfuls of her people settled here and there throughout the Far East in old times, but the parent country gave itself no concern about these wanderers, neither affording them protection, nor acknowledging any responsibility on their account."

The purpose of the Bureau is substantially the same as the Bureau of Insular Affairs at Washington and differs only in organization and the dignity with which the Japanese Government has clothed it by placing the prime minister at its head practically giving it representation in the cabinet, while the Bureau of Insular Affairs at Washington is a separate bureau of the War Department. It will be remembered that President Taft recently voiced the opinion that the importance of the dependencies warranted the establishment of a separate department which would give the insular possessions representation direct in the cabinet of the United States.

## CHINA'S NEED OF CONSTRUCTIVE ENCOURAGEMENT

The reorganization of the present government of the Chinese Empire, with a view to establishing a central representative governing body, is one of the most difficult tasks that the Prince Regent and his advisors have assumed. The Peking authorities are impressed with the necessity of calm deliberation of each movement in the direction of constitutional government, while the representatives from all parts of the Empire urge radical action. The recent announcement of the Prince Regent to the effect that the central government would at once proceed to assume control of the finances and of the military forces that formerly rested with the viceroys and governors, did not prove very popular. The provincial authorities claim that they are being saddled with more and more responsibilities and shorn of their power. But there is evidence that the Prince Regent does not intend to recede from his position. It would appear that he proposes centralizing the powers of government so that Peking will no longer be at the mercy of local whims when matters of international character are being considered. To inaugurate representative government immediately would defer the centralization of power indefinitely, for when the national assembly met it would first have to proceed to the acquiring of the control of the national finances, the military, and other functions of government before it could proceed definitely to consider national legislation. Judging from the experience of the Prince Regent with imperial power to carry out his decrees, it would take a national assembly many years to overcome the opposition of the viceroys and governors to the centralization of these powers. It seems to be the purpose of the Prince Regent to test the adaptability of the provincial officials to the new order by the measure of their co-operation in the initial movement to federate and recognize the national government whether it be representative or not. Once they demonstrate their willingness to make sacrifices and work for the general good, the process may be expedited. There is apparent, however, a general reluctance to proceed to radical reform and it is not improbable that the Imperial Government is acting wisely.

In the meantime the recent riot in Hunan has created more or less uneasiness among foreigners. It has been interpreted as an anti-foreign movement and in some quarters is referred to as an evidence of the incapacity of the provincial Chinese to appreciate the responsibilities of representative government. Other writers suggest early intervention goin so far as to intimate a renewal of the Boxer troubles.

A writer in the *World's Chinese Students' Magazine* makes an appeal for foreign sympathy and encouragement instead of destructive criticism and interference at this juncture. He writes:

"In her attempt to reform the unwieldy mass of the Empire, China has a tremendous task to perform, beset, as she is, with many difficulties. But, in spite of her slowness, she is earnestly endeavoring to do her duty. "Rome was not made in a day." So we should not judge China's reform by present results, but by whether she is really attempting to do something for her own salvation. Therefore, in the pivotal moment of China's history, it is not destructive criticism, nor interference, that she most needs, but constructive encouragement and brotherly sympathy from her friends and well-wishers."

According to the Peking correspondent of the *Asahi Shimbun* the representatives from different parts of the empire, numbering about ninety, who recently presented a petition for an early convening of the national assembly and were turned down, gave as their reasons "that two years had passed since the date fixed for the opening and that nothing whatever had been done in the way of preparation, and again in reply to the claim made by the government that the people were not prepared to appreciate constitutional institutions, the petitioners stated that the people had been in fact virtually the same for thousands of years, and to wait until their attitude underwent a change might mean to wait an indefinite period. They concluded with the statement that many difficult problems now confront the country and the only safe instrument for dealing with them would be a national assembly. They pointed out that England, France and Japan all entered a period of moral improvement and material progress after the adoption of constitutional government."

The *Hongkong Daily Mail* believes that haste in granting a constitution would be unwise and probably its advice would come well under the head of wise "constructive encouragement." We quote:

"The type of individual known in the West as a 'young man in a hurry' is becoming apparent in China. 'The young man in a hurry, usually wants by certain political and economic panaceas to achieve the Millenium, or what he considers the Millenium, almost immediately, and his counterpart in China desires to have constitutional government at once. A constitution for China has been promised. The preliminary steps to this end have already been taken, and there is every indication that the promise will be fulfilled, but even the Chinese themselves should be the first to realise that popular representation and parliamentary government would be dangerous to a people not prepared to properly exercise these. Of course the best education is that which comes by experience, and the country will understand parliamentary institutions much better after they have been established, but it will be readily admitted that to place the franchise at the disposal of people ignorant of its duties and responsibilities would be a hazardous experiment. A certain amount of instruction must first be imparted, information and advice must be distributed to the masses, or rather to the electorate, and then the people, having been prepared for their new duties, may be expected to discharge them with the minimum of mistakes. Turkey, Russia, and Persia have all had the boon of parliamentary institutions conferred upon them of recent years, and in each country the new Assemblies made many mistakes. Doubtless China will do the same. It is too much to expect otherwise. All that can be hoped is that these indiscretions will not involve the destruction of the new body, and the best hope of securing that is for the people concerned to realize their responsibilities. In our telegraphic news of yesterday it is announced that the gentry of different provinces, having memorialised the Throne praying for the immediate establishment of constitutional government and having met with a negative response, are now determined to use threats and declare that if their request is not acceded to they will incite the people to refuse to pay any taxes. By this action the gentry show that they are not fit to be entrusted with the privileges which they are claiming. They have to learn that constitutional government also means working for desired ends by constitutional means, and it is to be hoped that their agitation, if attempted, will be quickly suppressed. The granting of a constitution at present would not be politic, and the wisdom of the decision which postponed the innovation for several years to come becomes more apparent every day."

Whatever comes of the present movement in the direction of representative government in China, its success will rest upon the education of the people in the responsibilities of the individual citizen, not only in his relation to local interests, but to national interests growing out of participation in a confederation of the different provinces. The great danger at the present time is the clamor raised by selfish interests in the name of the great mass of the people whom they claim to represent. Should their success result in an assembly not representative of the Chinese people, then the purpose of the reform would prove a hollow mockery and the country be convulsed with probably more serious agitation. It is a notorious fact that political agitators are usually more greatly interested in furthering their personal ambitions than in the welfare and progress of the "dear

# A STUDY OF TRADE CONDITIONS IN THE ORIENT

## By J. NEWTON NIND*

"If one travels in the Orient, as I have been doing, he must be impressed with how thoroughly Great Britain has come to occupy the positions of vantage, and how thoroughly established are the merchants and manufacturers of that country. We hear much of the awakening of China and are told that there is soon to be opened to us a great empire in which our products may be sold.

"It is very recently that Chicago was visited by a body of representative business men of Japan—men who represented the chambers of commerce and other trade organizations in that marvelous country. But when you have visited Japan and China you are bound to be impressed with the belief that if the merchants and manufacturers of the United States are to have any share in the direct trade with these countries, they must begin to get ready for it—and get on the ground, as I have already indicated.

"During my visit to the Orient I heard frequently of the visit to this region of Joseph Menendez, the manager of the export department of the H. B. Claflin company, whose investigation had shown him that many goods which were of American production and which might under certain conditions be handled direct from the New York house, were being sold in China and Japan through English representatives. Mr. Menendez' visit to China was prompted by a falling off in the demand for American cottons in North China, and it was with the purpose of personally investigating the causes for this condition that the visit was made. Thereby hangs a tale which may better be told further along in this letter.

"It is not difficult to understand why Great Britain has thus far commanded, almost undisputed, the markets of China. She has held for nearly a century the concessions at the mouth of the Yangtsze river, where Shanghai is situated, and for quite as long a period the concession at the mouth of the Canton river, where Hong Kong is situated. China is still almost without railways, and the Yangtsze river has been the great artery of commerce for northern China, and the Canton river for southern China. The building of railway has begun, and in these enterprises Americans are beginning to participate. In the opinion of the most competent judges, China is to witness, within the next ten or fifteen years, a more rapid development of a railway system than even has characterized the United States. These railroads are sure to change conditions throughout the Chinese empire, and it is this change in conditions that should give our merchants and manufacturers an opportunity.

"It is true that Great Britain has shared the concessions at Hong Kong and Shanghai with France, and other favored nations have been permitted to establish themselves, particularly in Shanghai, but you are impressed all the time when you travel in the Orient with how thoroughly Great Britain dominates the Orient. Her ships are everywhere, and you hear the English language spoken as you hear it spoken only in England. The hotels are English in every detail. The railway cars are English in design, and even the street cars—trams they call them, as they are called in London—while of American build not infrequently are operated as are the busses in London. At least, such is the system in Shanghai.

"Great Britain is on the spot; she has learned the advantage of being near her field of distribution, and she has cultivated it thoroughly. She carries such extensive stocks, she understands the field so well, she is so dominant in the two chief ports of China, her methods are so deep seated—and the English are slow to change their methods and practices always—that so far as our merchants and manufacturers breaking in at these ports of entry—well, it would mean toil and trouble.

"Within the past five years Germany has begun to be felt in the Orient. She has subsidized two lines of steamers, the North German Lloyd and the Hamburg-America lines, and the representatives of her commercial houses have gone out after a share of the trade which is to be found in the Orient. If you talk much with the Englishmen of this section you are sure to be impressed with the belief that Germany is getting some of this trade. Their comments are not always complimentary, and there is a suspicion of jealousy in what they have to say.

"The one place in the Orient where you encounter Americans, where you hear the English language spoken with the accent which is familiar to all Americans, and where American business methods dominate, is in Manila. And here is the point which I wish to make: If the jobbers of Chicago are to follow the example set by the H. B. Claflin company and, after personal investigation, attempt to get into the field, they must begin early to establish themselves in this, a part of their own land, to reach out after the trade of the Orient.

"Mr. Menendez is quoted by an official of the H. B. Claflin company as calling especial attention to the possibilities for American trade in the Philippines, and as having said that the new tariff impressed him as the open sesame to that rich country, which should not only give an opportunity for dry goods, but for general merchandise, to gain a position there and enable the American exporter to gain to the fullest extent the opportunity which had been opened. I had repeated to me in Manila similar expressions by Mr. Menendez.

"The business men of Manila are not fully content with what has been secured for them, and will not be content until all the restrictions hedging about the amount of sugar and the quantity of cigars which may be shipped free into the United States are removed, but they feel the entering wedge has been made, and that a new era of development has been opened by such tariff legislation as has been secured.

"It was my good fortune to travel from Seattle to the Orient with a delegation representative of the Commercial club of that city. At a dinner given this delegation by the Merchants' Association of Manila, the business development of the Philippines and the development of trade in the Orient was very fully and frankly discussed. During my lifetime I have had opportunity to witness the development of centers of trade in close proximity to the fields of distribution. I have seen a large part of the jobbing trade which was once New York's shifted to Chicago. I have seen centers of distribution ministering to more or less local fields grow up at Minneapolis and St. Paul, Kansas City and St. Joseph, Omaha, Dallas and Denver, and so I ventured to express the opinion, in the talk which I was called upon to make at that dinner, that if the merchants of America are to get a share of the trade of the Orient they should establish themselves and carry stock in Manila. I am still of that opinion, and my suggestion met with the endorsement of the business men present who have had opportunity for a fuller study of the proposition than I have had.

"Let us look at the possibilities. Hong Kong is 10,785 miles from Bremen, and about 600 miles nearer London. Shanghai is 11,655 miles from Bremen; Nagasaki, the most southerly port of Japan, 12,067 miles; Kobe, the most important port in Japan, 12,456 miles, and Yokohama, 12,786 miles. The shortest sailing time, by the P. & O. steamers, which are the mail steamers from London to Shanghai, is forty days. Boats carrying chiefly freight over the same course would require even greater time, particularly if stops were made en route, as there would necessarily be.

"Not one of the important ports of the Orient—Yokohama, Kobe, Nagasaki, Shanghai, Hong Kong and Manila—is more than 6,000 miles from the ports on the Pacific coast of the United States. Chicago is nearer every one of these ports by several thousands of miles than the cities of England and Germany which are now supplying this region with its merchandise chiefly. Our ships—but come to think of it, we practically have no ships—can cross the Pacific in a couple of weeks—in practically a third of the time that ships of the same character would take to round Gibraltar into the Mediterranean sea, pass through the Suez canal and the Red sea, around the point of the Malay peninsula and then north to the ports which I have already named.

"Manila is less than two days removed from Hong Kong. It is about three days remote from the Japanese ports and Shanghai. From Manila there might be reached also Australia and the other islands to the south—particularly Australia, where, I am assured by the people who travel and who know the world, the tastes of the people and their manner of doing things are more like those of America than any other country on the globe, English though she be in her origin and education.

"Congress has taken the first step to make feasible such a plan as I have suggested. She has established free trade between the Philippines and the United States. The ladies of our party, who had shopped freely in Japan and China, found a keen delight in buying the things not common to their own country, in the Philippines, because they could send these things home free from duty restrictions.

"The next step will be for congress to grant a ship subsidy which will encourage the establishment of American steamship lines from the ports on our Pacific coast to the ports of the Orient.

"There ought to be a line which would travel direct from Seattle or San Francisco to Manila, stopping only at Honolulu—an all-American route. Such a route would be less than 7000 miles long, and could readily be covered in twenty days. The northern route—from Tacoma to Yokohama—is only 4300 miles long, and not more than 6000 miles to Manila.

"But the ship subsidy will be unavailing unless the merchants and manufacturers of the United States undertake the establishment of trade in the Orient and contribute to the development of the industries of the Philippines by buying and distributing what she is producing and is capable of producing. I crossed the Pacific in the Minnesota, belonging to the Great Northern Steamship company. The sister ship, the North Dakota, it will be remembered, was wrecked off the coast of Japan soon after she was put in service, and you still hear, in the Orient, that this needless destruction of the great steamer was a most fortunate sale to the insurance companies. The Minnesota, I am told by those who should know, has never made but two trips when she even met expenses. The usual loss per trip is about $20,000. She makes about five trips a year. What hope is there that we may establish trade in the Orient in ships flying our own flag unless we first subsidize them, and then get on to the ground and develop traffic in both directions?

"The Philippines produce, and are capable of producing, tropical and semi-tropical products which the United States now imports in large quantities (from countries other than Porto Rico, with which she has free trade) to an extent beyond the possibility of production in

*(Continued on page 51.)*

*Retired American trade journalist who recently visited the Far East and gave his impressions in an article published in *Chicago Commerce*.

---

people" whom they presume to represent.

However, we are satisfied that during the last decade there has developed a large body of intelligent progressive Chinese who are putting patriotism before personal advancement and are willing to make great sacrifices in the interests of their countrymen and their native land. To the patience and good judgment of these men, the successful development of the Empire under a more liberal form of government must rest. And we believe that whatever general criticism of methods may be indulged by foreigners should be marked by a spirit of friendliness or what the writer in the *Students Magazine* aptly designates "constructive encouragement."

H. E. SHEN YUN-PEI
ACTING VICE-PRESIDENT OF THE BOARD OF POSTS AND COMMUNICATIONS

## RAILWAYS IN CHINA, 1910

*(Continued from page 37.)*

to the river. The Sam Kap Hoi River is much used by Chinese steamers carrying passengers and freight plying between Hongkong, Macao, Fatsan and other Chinese coast cities and Canton.

The length of the railroad from Kwong Yick to Tao Shun is thirty-nine miles and there are nineteen stations on the road, the principal ones of which in their order from north to south are Kwong Yick, Mak Hong, Man Fook, Aikong, Chin Ben, Shui Boo, Oung Hong, Bau Gong, Sun Ning, Ai Hong, Ng Ship, Lee Que, Hi Hung, Chong Low, Look Tung and Tao Shun. Three passenger and two freight trains making a daily round trip each are in operation, and the present receipts from the passenger traffic alone averages about one thousand dollars per day. Many hundreds of workmen are engaged on the line of the road straightening curves, lessening grades and ballasting roadbed. The road traverses Sun Ning County from the On Sui How River on the north southerly to the southern boundary of the county, passing through a rich agricultural district with rice as the principal crop. The country certainly looks prosperous and enjoys that reputation.

At Kwong Yick the company has a fine, large office building, machine shops, railroad yards, and a car building house from which they are about to turn out the second first class passenger coach built at the shops, the iron work of the trucks being the only portion of the coach imported. The track of the railroad is laid with sixty pound German rails, and the road is equipped with five large Baldwin, one medium size, and three small German locomotives; two first class passenger coaches; eight second class passenger coaches; six third class passenger cars; sixteen box cars; forty-five freight cars, and sixty dump cars used in construction and alteration work.

At Sun Ning the company has erected a fine, large brick building used exclusively for railroad office work, a brick railroad station, brick printing office where all of the printing for the railroad is done, locomotive and car sheds, with innumerable smaller buildings around the yards necessary for the handling of business in connection with the railroad operations—nothing seems to have been overlooked or forgotten.

This railroad might well be called A ONE MAN RAILROAD as Mr. Chin Gee Hee, who spent forty-three years of his life in America, the greater portion of the time engaged in railroad construction work by contract for the Northern Pacific, Great Northern and various short lines running out of Seattle to the numerous coal mines and in this manner gained an enviable railroad experience which has stood him well in hand as has been fully demonstrated by his building of the Sun Ning Railway. Mr. Chin Gee Hee is now sixty-six years of age, in the best of health and full of energy. He was born in Sun Ning County some nine miles from the city of Sun Ning and after accumulating a respectable fortune in America conceived the idea of erecting an everlasting monument to himself and family and concluded that the building of the Sun Ning Railway would be best fitted for the occasion set about and secured the necessary capital, some three million dollars, local currency, from Chinese merchants in America and Hongkong. When this was practically assured, he individually surveyed the line of road, settled all controversies regarding rights of way, did the engineering, let the several contracts for construction of roadbed and bridges,—being careful when so doing that a man from each village secured the contract for work to be done on the line of the road nearest to the village where he lived. Thus the laborers along the route secured work on the road nearest to their respective villages, and in this way strife, and perhaps strikes, were avoided. He taught these men how to do the work from the handling of a pick and shovel to the driving of the spikes securing the rail to the ties and personally superintended the same; located his many stations along the route and let the contracts for the erection of the station houses; laid out his yards and location of workshops at Kwong Yick; surveyed and laid out the town (now city) of Kwong Yick with concrete streets twenty feet wide, sidewalks of the same material, seven feet wide with drains on each side, a city laid off and built up on perfect squares and now boasting of six hundred brick houses. When the railroad was completed, Mr. Chin Gee Hee personally equipped it and taught the Chinese locomotive engineering. No assistance whatever has ever been asked of the European in relation to anything in connection

H. E. WANG TA-HSIEH
VICE-PRESIDENT OF THE BOARD OF POSTS AND COMMUNICATIONS

with this railroad, and no financial aid has ever been received from the Chinese Government, in fact none was ever asked for, but the Chinese Government, fully recognizing and appreciating what Mr. Chin Gee Hee accomplished, has honored him with a rank next to the Taotai of Sun Ning County and has adorned him with a pink button and jade emblem to be worn on his cap as a mark of distinction. He looks forward to the appointment of Taotai in the near future, and those who have had the pleasure of meeting and conversing with him, and seeing what he has done for Sun Ning County, most earnestly hope that his fondest dreams may materialize.

At the present time, under the exclusive supervision of Mr. Chin Gee Hee, over one thousand workmen are employed breaking ground, grading and constructing roadbed for a railroad which is to be a continuation of the Sun Ning Railway, starting on the northern bank of the On Sui How River immediately opposite Kwong Yick, and running to Kwong Wau Mon (Chinese Customs) on the same river, a distance of about thirty miles. All contracts for construction and necessary material for building and equipment of the road have been let, and material is now arriving almost daily at the several landings along the river nearest to the site of operations. It is calculated this additional thirty miles of Sun Ning Railway will be open for traffic by Chinese New Year, 1911, and will cost about two million dollars, local currency. When opened for traffic passengers and freight will be conveyed across On Sui How River by ferryboats, and later on it is the intention of the company to place massive ferryboats on the river sufficient in size to take trains aboard. When completed, this portion of the Sun Ning Railway will put out of commission the many steamer landings between Kwong Yick and Kwong Wau Mon where the various steamers plying between Honkong, Macao, Canton, Fatsan and other Chinese ports along the coast are in the habit of stopping, thereby greatly increasing the railroad revenue. In the building and equipping of the extension of the Sun Ning Railway to Kwong Wau Mon, the Chinese Government has not been asked to render any financial assistance and the road is being built and will be equipped with private Chinese capital, shares of stock of the company being sold for this purpose. It is needless to say that the Chinese see that the investment is a good one and are eager to purchase the shares offered.

# RAILWAYS IN ANHUI

The province of Anhui has an area of about 50,000 square miles and a population of over 25,000,000. The Great Yangtze River flows for nearly 200 miles through the heart of the province from South-west to North-east, and with its tributaries, canals and creeks, has formed the highways of communication from time immemorial. Roads in the Western sense of the word do not exist. Except in very few instances, narrow paths and wheelbarrow tracks are the "trade routes" leading to the nearest navigable creek, where the sampans and junks receive the produce of the country and deliver it to the great provincial mart of Wuhu, on the Yangtze. Wuhu, the trade center of the province, is situated on the right hand bank of the river, about 300 miles from the sea, or about equidistant between Shanghai and Hankow, the "New York" and "Chicago" of China. Wuhu was opened to trade as a Treaty Port in 1897. Its advance has been rapid, the volume of business trebling in the last ten years. The principal article of commerce and export is the great staple of China—rice. The immense level plains, periodically flooded and fertilized by the Yangtze, are specially adapted to the cultivation of this staple, and yield abundant crops. A ready market is always at hand for the sale of this product, and the export from Wuhu has risen from 47,400 tons in 1895 to 330,700 tons in 1905. From the interior of the province large quantities of rice, paper, beans, nuts, cotton, tobacco, tea, and other products are extensively marketed at the neighbouring towns of the adjoining provinces of Chekiang and Kiangsu. These do not appear in any returns of trade, and can only be approximately determined by observation.

The many waterways leading to Wuhu are not always in a navigable condition and the carrying trade of the interior is subjected to much inconvenience and delay by taking a circuitous route. The main canal or river to Wuhu from the east and south is choked with

H. E. JEME TIEN-YU

CONSULTING ENGINEER TO THE BOARD OF POSTS AND COMMUNICATIONS.—DIRECTOR OF THE PEKING-KALGAN RAILWAY

silt in one important section which cuts off Ningkwofu and the Tananfu watershed in the dry season from November to March. In the absence of roads, these important districts are compelled during the dry season to carry on their traffic via Taipingfu and thence up stream against the swift Yangtze current to Wuhu, or to transport it under somewhat equal difficulties on the one hand across the "Tong Pa" Barrier via Liyang in Kiangsu and thence by the Taihu Lake towards Shanghai; or on the other hand via Sengan and Hachowfu to Hengchow or via the Tai Hu for the same destination at Shanghai. These routes make for expense, difficulty and delay, and either is only a choice among many evils. But even under these great disadvantages, produce is raised and exported in competition with more favored localities, and these conditions form a sound basis for the hypothesis that railway facilities would increase trade a hundredfold. Under the present system of transporting the rice crops by junks the temptation to water the rice and increase the weight seems too strong for the average junk owner to resist. This practice has earned for the district a notoriety which must react on the whole community and materially affect the value of the product. The practice of watering the rice after it has been taken aboard by measure results in a swollen grain at the port of discharge. The junk owner is enabled to deliver the exact measure of freight and retain a good proportion as squeeze pidgin in addition to receiving his legitimate freight charges. The producer and wholesale merchant not only loses part of his cargo, but receives the remainder damaged and depreciated in value. This practice which is prevalent in the Anhui districts exposes the producer to a monetary loss, of which the legitimate freight charges are a mere nominal part. This class of transport with its drawbacks will cease within the railway sphere as soon as the safety and economy of railway carriage is available. In addition to the above disadvantages to the trade of the Wuhu district, the question of time is an important factor. The junks take from two to five days (according to the weather) to convey their cargoes from Ningkwofu and the Tanan Lake watersheds to Wuhu, an average distance of 60 miles which a freight train would cover in a few hours. The actual freight charges by the slow and uncertain junk transport would give a fair opening for railway competition. By the latter method the farmer could accompany his products to the market and return the same day with his money and purchases.

In considering the question of railway facilities for the Wuhu or Eastern district of Anhui Province, the scheme must be broad enough to co-operate in harmony with the proposed systems in Chekiang and Kiangsu Provinces. Wuhu is only some two hundred and thirty miles from Shanghai by the most direct route across a feasible and productive country highly remunerative for a railway line. Wuhu is some forty miles nearer to Shanghai by this direct route than by the way of the Shanghai-Nanking

railway to Nanking and up river to Wuhu, or via the proposed railway connecting these ports. The magnet of trade in all the Yangtze valley swings towards Shanghai, and through rail connection with the trade metropolis must always be considered as an important feature in any provincial project. Railway schemes for the Yangtze valley are still in a somewhat chaotic stage, but as time goes on and the value of the most direct and quickest route is recognized by the Chinese, the Anhui railways will be the key to the great Yangtze valley trunk line from Shanghai to Hankow. The nearest approach to a through system at present is embodied in the existing Shanghai-Nanking railway and the concession held by the British & Chinese Corporation for a road between Pukow or some point on the Southern section of the Tientsin-Pukow Railway and Singyang on the Pekin-Hankow line. A glance at the map, however, will demonstrate that, at the best, this combination is far from being the most direct and economical. The future holds bright for a line starting from Shanghai over the existing Kiangse Railway to Kashing, from where the Chekiang Railway Company will build their line to Huchow, and thence to the Anhui border.

Here the Anhui railways will commence. From the border to Ningkwofu and thence westward through Chihchowfu and the provincial capital at Anking and through to Hwangchow and Hankow, undoubtedly marks the route of the future Yangtze valley through line between Shanghai and Hankow. An alternative might be found by diverting the line at Ningkwofu, northwest to Wuhu, and thence from the other bank of the Yangtze the line could strike westwards towards Hankow and at the same time continue northwest through Luchowfu, Yingchowfu, Chenchowfu to Kaifeng, as is already mooted by the Anhui promoters.

Another Yangtze Valley project which eliminated the province of Anhui was advanced by certain American promoters, and a concession applied for, but never granted. This project is, however, interesting as showing an alternate way of reaching the upper Yangtze by avoiding much of the difficult country. This project included the use of the existing line from Shanghai to Hangchow. From here it would follow up the valley of the Tsien-tang river through Yenchow, and Chuchowfu, in Chekiang province, entering Kiangsi province near Kwangsinfu, and thence to the provincial capital at Nanchangfu. From Nanchang the line extended westwards through Juichowfu and entered Hunan Province. From Changsha the capital of Hunan the project line included Changteh and Yungshun reaching Chingking in Szechuen without traversing the difficult mountainous country of the Yangtze gorges. This line holds a similar relation to Hankow as the British project, as in both cases, Hankow can only be reached over a branch line. The value of the American project seems to lie in the fact that the difficult engineering feat of bridging the Yangtze in its lower reaches is avoided.

So for the present Anhui holds the key to a through railway service in the Yangtze Valley and any scheme must be elaborated with all due reference to its future relation with connecting roads in adjoining provinces. The construction of the Chekiang line to Huchow and thence into Anhui to Ningkwofu and Wuhu, must materially affect the profits of the Shanghai-Nanking Railway, by diverting much of the through passenger and other traffic. However, when the Shanghai-Nanking line is extended to Wuhu, and both lines enter into direct competition for the Shanghai traffic, the much criticized British line will then justify some of the extra expenditure in its construction cost, for although handicapped by some forty to fifty miles in distance, the well ballasted bed, with its hard wood sleepers, 85 lb. rails, and high grade rolling stock, will easily permit of a running speed within the limits of safety, which will be impossible on the lighter and cheaper constructed lines under Chinese management. It is true that this contingency is still a long way off, but the situation is bound to be created in time, and unless the Chinese adopt a higher standard of work, the Shanghai-Nanking must always remain a factor to be reckoned with in any through service.

H. E. SHENG KUNG-PAO, SHENG HSUAN HUAI
**TITULAR VICE-PRESIDENT OF BOARD OF COMMUNICATIONS, ETC.**

The journey from Shanghai to Wuhu upstream takes 40 to 45 hours and downstream over 30 hours. Rail connection between the two parts would reduce the time to 6 or 7 hours, and give an immense impetus to trade. The connection would be of infinite advantage to the province and doubly benefit the Chekiang and Kiangsu railway, by bringing the Anhui traffic to Shanghai over its rails. The direct line from Anhui to Shanghai through Huchow, Kashing and Sungkiang with the connection to Hangchow would serve that country admirably as a trunk system.

If the Nanking line is extended to Wuhu, before the Anhui railways are constructed, it might materially reduce the prospects of the latter project. This extension which received the approval of Viceroy Tuan Fang has been surveyed and estimated for by Mr. A. H. Collinson, M. I. C. E., the Engineer-in-Chief of the Shanghai-Nanking railway, who now holds the position of Consulting Engineer to the Viceroy. This Nanking-Wuhu extension, by tapping the immense rice districts of Anhui, would attract considerable freight to the Shanghai-Nanking line and materially increase its income from this source.

Wuhu is situated in the center of a vast rice producing area. The over production of this crop (while the country is still a long way under its full producing capacity) is "exported" to the ports of Swatow, Canton, Shanghai, Foochow, Chefoo, Amoy, Tientsin and Kiaochow, each port individually varying in its annual demands but collectively forming a strong and steady market for all the available crop. Paper is largely manufactured as a sort of bye-product from the rice crops.

In the scheme outlined for the Anhui Railway system, the districts proposed to be served at the outset are those which concentrate upon the following towns: Wuhu, Wanchi, Ningkwofu, Pikachiao (including Kien Ping and the Ta nan lake watershed), Kwantechow and Sengan. Kwantechow is about 8 miles from the provincial border and is the market place of a very extensive and populous valley. It does a considerable trade with Sengan across the border in Chinkiang at the head of the Huchow canal. This is a good business town, with a large established trade with Southern Anhui, which is facilitated by the canal leading to Huchow, and its connections with Hangchow, Soochow and Shanghai. The Anhui railway project therefore contemplates the town of Sengan as its terminal which will in time be the terminal of the Kashing-Huchow branch of the Chekiang system.

The Chekiang Railway company will be compelled by its own interest to construct this line to secure the Anhui trade, with obvious profit to both companies and the districts served.

Rice is sold in the market of Kwantechow and transported thence to Sengan (50 li) by wheelbarrows, pack mules and ponies, the road being very congested at times with this traffic. Rice carried over this distance (say 17 miles) is charged at the rate of $6.00 to $7.00 (silver) per ton. This is a typical instance of the efforts made in parts of the rice district unserved by water communication to dispose of the surplus crop, and which makes for the profitable operation of a railway in that section.

KUAN MAN-CHUN

ASSOCIATE DIRECTOR OF THE IMPERIAL PEKING-KALGAN RAILWAY

Pika-chiao is indicated as the convenient station for Kien Ping on Ta nan lake watershed.

Schuang-Chiao has water communication with a large rice producing district and although close to Ningkwofu necessitates independent station accommodation.

Ningkwofu is the market center for a large area, and several coal mines are located south of the town.

Wanchi is a town of considerable importance, the trade of the Kinghsien valley and river passes through it to Wuhu, and cheap railway facilities would attract the trade to the line.

*Coal.*—In addition to the mines south of Ningkwofu, coal has also been found to the South East of Kian Ping not more than 10 miles from the proposed line. And at the point when the line approaches the boundary of Chekiang Province there are also coal mines quite close to the line, and in the broken range of hill, in Chekiang on the road to Huchowfu, there are mines where coal, silver and gold were extensively mined in former times. The coal beds are all smoke coal but none of these have been worked to any extent in recent years owing to the scarcity of capital and the difficulty of transport. A foreign engineer has been developing some of the coal mines in this district for Chinese owners during the last year, and has several thousand tons ready for shipment, but the authorities seem antagonistic to any extensive mining operations. The output is necessarily restricted being worked under native methods.

The group of hills near Wuhu, culminating in Pei Ma Shan or White Horse Hill, should develop valuable quarries of limestone, Breccia, and red sand stone, and contribute a good building material for Wuhu. These hills were mined for gold and silver some 30 years ago, but on account of disturbing the "Fengshui" of the "White Horse" the natives demanded that further operations should cease. It is a strange fact that although coal is found in nearly all the formations of the lower Yangtze little or none of it is being mined, and the coal used so extensively on the River comes from Chihli, Manchuria, Japan, Australia, and even from England. Such a state of affairs would terminate once a railway is built near the coal fields, and the development of such mines figures in any calculation of prospective traffic sources. It is conceded that in such cases the coal should be mined by natives and by native methods for a commencement. With the railway to carry the output to the coal markets on the Yangtze the mining industry would develop rapidly. Experience of foreign syndicates holding railway and mining concessions, and who have gone to great expense to develop the mines with modern methods and machinery, demonstrates the unwisdom of superseding native methods in the early development of coal mining. Instead of sinking foreign capital in works and machinery in remote places, it would appear more profitable to the success of a railway venture, to induce the native to increase their output with their own methods, by facilitating a market for the coal.

*Route of Railway.*—The main canal or River by which the waters from the south east Anhui Railway sphere find their way to the Yangtze passes through Wuhu and forms a "delta" in the river as its mouth, with the consequence that the hulks of the shipping companies at Wuhu have to be moored far out into the river, and these and the passing steamers can only be approached by boat, thus rendering it very expensive to handle goods to and from the steamers and shore.

It was decided that the best site for the railway approach to the Yangtze was at the likin station, where the water was deeper at the bank, where the new foreign concession begins, and where the workshops, engine house and passenger station could be located on higher ground convenient to the city.

The line passing to the north of the city crosses the river at the first open ground upstream and thence follows the Wanchi Road as far as the Pei Ma Shan hills, passing along the north-east of the hills direct to the town of Wanchi, following the line of least resistance through a watery country.

The water at Wuhu at times reaches the level of 23 feet on the Custom's gauge board, and with the Yangtze at that level the district between Pei Ma Shan and Wanchi is very much flooded. In places the water is retained for future irrigation purposes, but even with this it maintains generally a very high level.

The maximum Yangtze flood level at Wuhu within the past 40 years registered at about 30 feet on the Custom's gauge board, and thus with some 7 feet of water in excess of the average condition the provisions for waterway or bridge opening on the Railway line to Wanchi are very heavy indeed. In 1901 (the year

of record flood) the water remained near its maximum level for some 2 months, and with floods of a lesser magnitude it often keeps at a level of from 20 to 25 feet for about 4 months. Ample provision was therefore made over this portion of the line for the ingress and egress of such an immense body of water as is liable to deluge this country.

These floods have their compensating advantages to the landowners. If they deluge the country in one year, their fertilising effect for succeeding years makes up for the damage a hundredfold.

RAILWAY STATION AT SHEKWAITONG, CANTON

The ground is dry from December to March or April but at no time can foundations be installed without encountering water.

From Wanchi a series of low hills have to be manoeuvered through to the crossing of the canal which branches from the main canal at the Pagoda. This canal will be crossed about a mile to the North of Chu T'ang village and the line will then follow through the small range of hills at Lung Wan Shan and negotiate another series of low hills to the gap at Miao Pu and on to Ningkwofu.

From Ningkwofu for some eight miles to the east the country is subject to heavy floods. There are three rivers to be crossed between Ningkwofu and Schwang Chiao aggregating some 900 feet of bridging over normal water while the remainder of the eight miles requires plentiful flood opening.

There is a low watershed to be crossed between Ningkwofu and Hung Ling Chiao, also the river of the latter name. Proceeding to Pi-ka-chiao, where the line crosses the river immediately downstream from the town, and then negotiates the low hills towards the valley between Yang Shang Thu and Pei Ma Ling Shan. From this point a line, of least resistance, is selected to the N. E. of Kwangtechow where a station will be located less than a mile from the city. Thence, having crossed the upper waters of the Kien Ping River's branches, it will follow the valley to the North of the Sengan Road, cross the low watershed of the province boundary and approach Sengan to the North of the town and river, terminating in a position for the legitimate extension towards Huchowfu.

From Hung Ling Chiao to Sengan the waterway will be considerable but not abnormal.

Such in brief are the outlines of the proposed Anhui Railway, and, in 1905, H. E. Lord Li Ching-fang, who had originated the idea of connecting Wuhu with Shanghai in the south-east, and with the Peking-Hankow Railway in the north-west, took the initial steps towards constructing the lines. As the Southern Section was the most important, and promised greater dividends from the start, it was decided to commence operations on that section first. The Anhui Railway Company was organized and under the leadership of Lord Li, the gentry of the province readily subscribed for the shares. In the autumn of 1906 an engineering staff under the direction of E. J. Muller, C. E., was engaged and survey of the line commenced. Rails (75 pound per yard) were ordered from the Hangyang Iron and Steel Works; Japanese oak sleepers, locomotives, cars, machinery for workshops, stone crushing plant for ballast, bridges, etc., etc., were all ordered; contracts let for the earthwork, abutments, piers, culverts, etc., and work commenced in earnest.

But from the start discontent reigned among the stockholders. The "Northern Party" of the Anhui Gentry insisted that the Northern Section should be built first and a keen and bitter fight was inaugurated, which grew to a stage where the "Northern Party" shares subscribed were never taken up and the funds promised were not forthcoming to carry on the work. Handicapped at the outset by the threatened shortage of funds, directions had to be issued to proceed with the work slowly, and orders for material were cancelled. This was not an easy matter in all cases and some orders for machinery, sleepers and bridges already on the way could not be cancelled and so arrived in specified time. Work on the earthwork, however, proceeded slowly and the line between Wuhu and Wanchi (about 20 miles) was nearly completed. This section was most troublesome as the line traversed a very low and swampy district, frequently flooded. The grade line is about eighteen inches above the highest flood, which necessitates embankments 35 feet high at many places. From Wanchi, however, the line rises and to Sengan it is quite easy.

NATIVE CITY, KENGMEEN

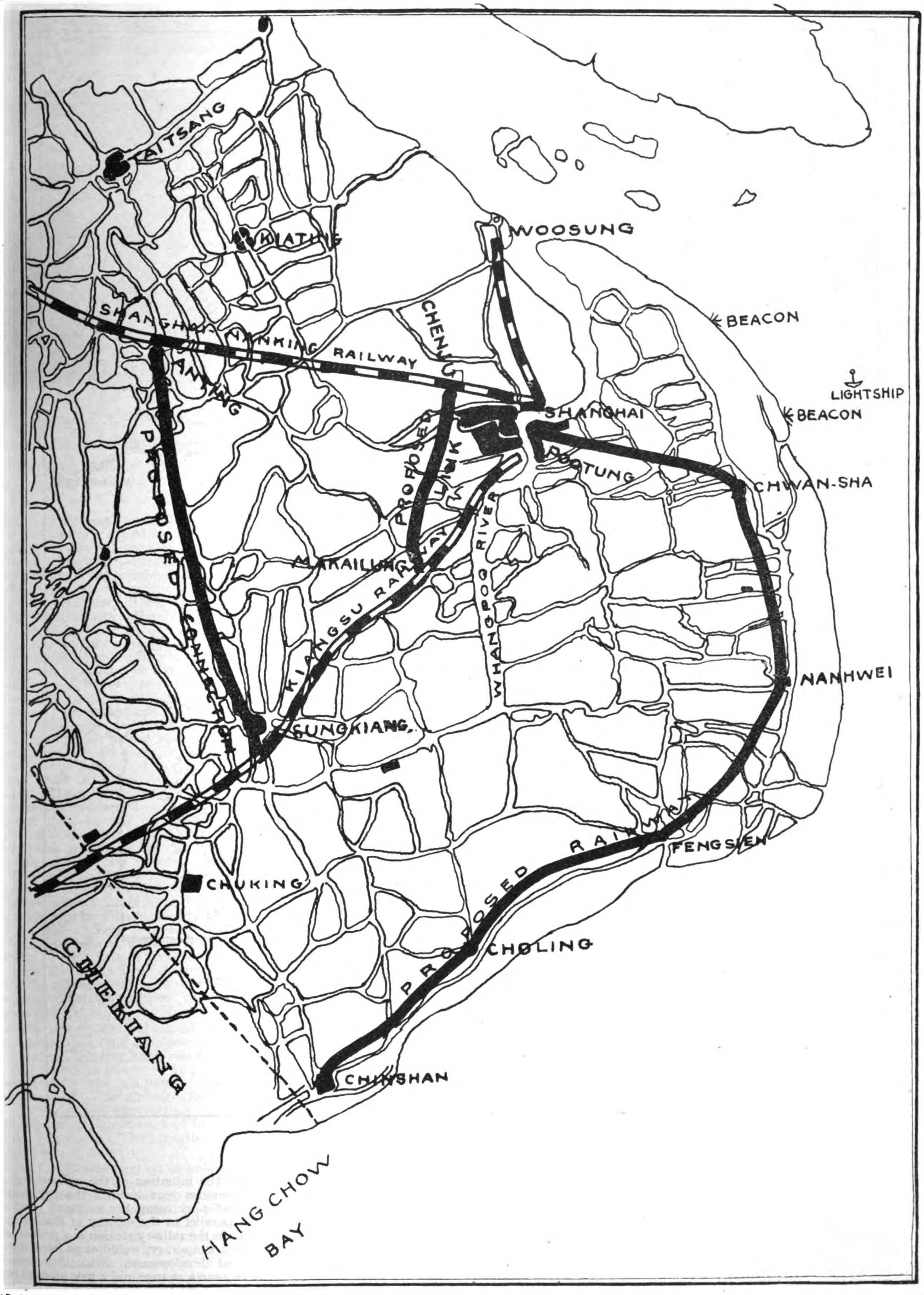
The pier, abutment and culvert work was permitted to go ahead slowly according to orders given the engineer, and were not completed until the spring of 1909, and only a few of the steel trusses were erected. These trusses are of the Pratt system, pin connected, built by the American Bridge Company of New York. Orders were given the engineer that all bridges must give a clear headway of 15 feet above maximum high water, an extraordinary clearance, and that as few piers as possible should obstruct the waterway.

These culverts, piers and abutments are all of reinforced concrete of the same type and specifications as employed by the leading American railways. As this was the first attempt to introduce reinforced concrete throughout in railway construction in China, it met at the outset with great opposition and distrust from the Chinese, who thought it was 'a bad material' and not applicable to the country. However, when the structures were completed, opinion changed, and it is almost certain that when work is resumed, this class of construction will feature the entire line.

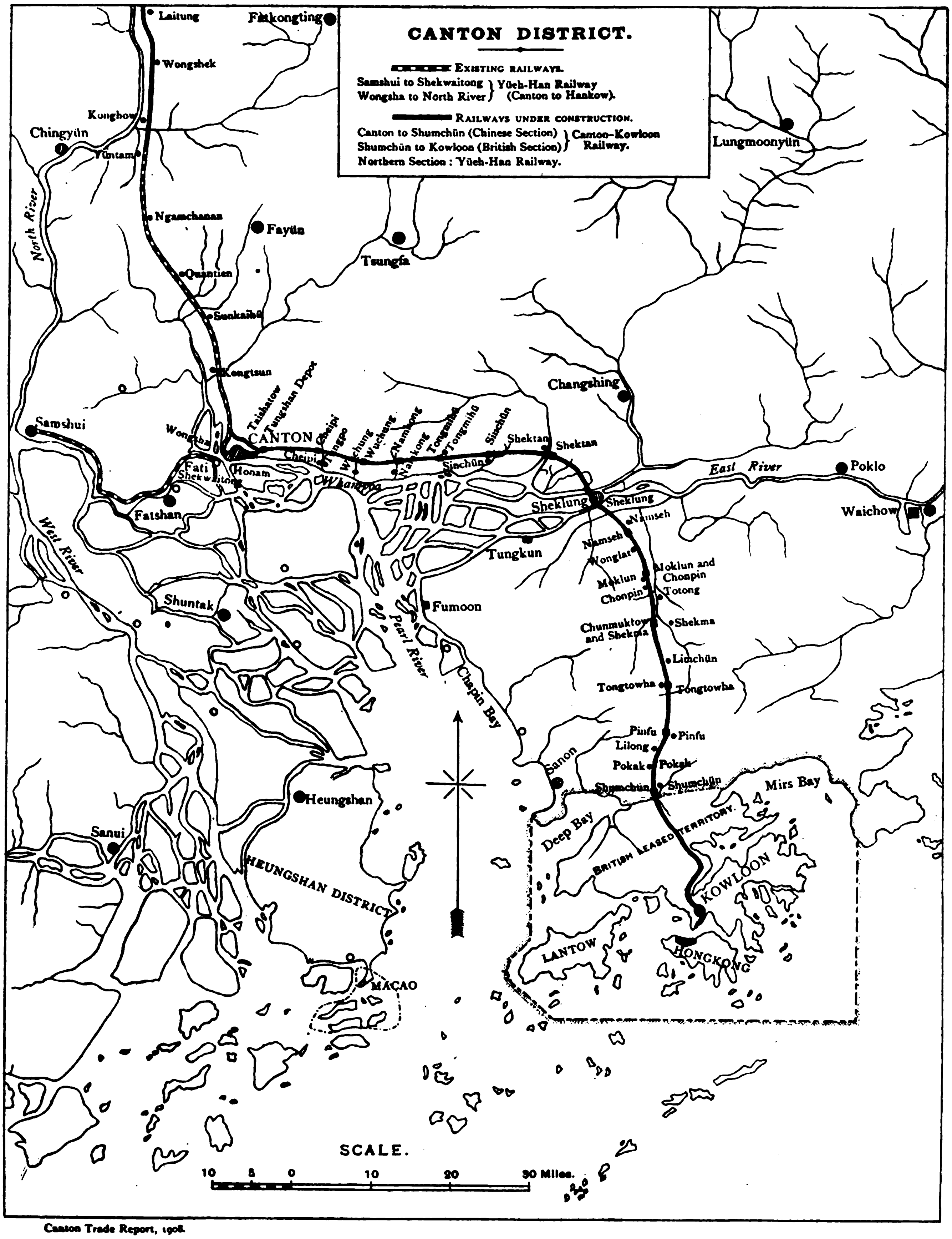
When Lord Li was appointed Minister to Great Britain and the company lost his guiding influence, no further funds were forthcoming from the shareholders. A little was secured in the form of rice taxes paid by the Cantonese rice merchants of Wuhu. As this was hardly sufficient to keep the numerous Chinese staff in salaries to idle their time away, hope was abandoned of completing the road under its present management. The Foreign Engineer therefore resigned and the work was paralyzed The Northern and the Southern factions are still fighting. No work is being done and the case seems hopeless until such time as Lord Li returns from England and infuses some new life and horse sense into his provincial followers.

Under the management of Mr. Muller it was estimated that the cost of line including rolling stock would not exceed £5500 per mile ($27,500 gold), and this figure was not exceeded in the twenty miles completed to date.

The specifications were based on the report made to Lord Li by Mr. Ginnell of Paulings, Ltd., who advocated a line similar in characters to the "Outside wall" or Manchurian extensions of the North China System, with such modifications as were necessary to meet Anhui conditions.




MAP SHOWING LINE OF PROPOSED RAILWAY FROM SHANGHAI (POOTUNG) TO CHINSAN, ALSO THE PROPOSED LINK BETWEEN THE SHANGHAI-HANGCHOW-NINGPO RAILWAY, KIANGSU SECTION, AND THE SHANGHAI-NANKING RAILWAY




Canton Trade Report, 1908.

## THE KOWLOON-CANTON RAILWAY

The latest word with regard to the opening of the British Section is its postponement from the date originally proposed rather indefinitely, but July 15th seems to be about the date upon which most of authorities agree that this section will be open for traffic. The publication of an advertisement inviting proposals for the supply of refreshments at the various stations along the line in the *Government Gazette* indicates that the final touches are being applied preparatory to that event. At present writing no official announcement of the date of opening has been made.

Up to February this year the expenditures exceeded the original estimates by $4,800,000, Hongkong Cur., and $2,100,000 was appropriated to cover the estimates for 1910. The cost to that date amounts to over $12,271,495.

According to the report of the Chief Resident Engineer, E. S. Lindsey, M.I.C.E., under date of February 28, 1910, for the year 1909, it was the intention of the railway authorities the previous year to open the British Section for traffic by using the overland route which runs parallel to the railway at Hung Hom and to place the railway station in a position which, though temporary, would come into the scheme of final development. Since then ideas have undergone a change and a new proposal regarding final location of terminus has been submitted to the Secretary of State.

"Until connection with Canton is established,"

PRESIDENT CHEUN YEE HEE, OF SUN NING RAILWAY, IN CENTER OF DOORWAY

he writes, "nothing much in station accommodation at Kowloon is required for the light local traffic which, in the interests of the railway, it is advisable to work up. Pending the decision as to the location of the terminus, therefore, we may take it that for all practical purposes a flag station in Salisbury Road, close to the ferry proposed in the scheme lately sent forward, and another at Hung Hom will meet all the Kowloon and Hongkong requirements.

"There remains a good deal to be done before the railway can be said to be completed. Stations and quarters, or both, have to be built at all stations. Workshops and watering arrangements have to be erected and the reclamation must be finished before the goods yard can be laid. As regards the shops, nothing can be done in this respect because the site for the workshops is not leveled off nor is the steel work likely to be out before April. Girders for bridges 4 × 8 will not be out to the end of March.

"Before through opening to Canton, however, the contract time for the completion of the reclamation will have elapsed and the passenger and goods yards will be ready. As the British Section will be ready for opening before the Chinese Section it is proposed to open the line as soon as the essentials are ready, with the station arrangements as intimated above, in order to work up a local traffic and to transport material for the Chinese Section if required, all of which will help in earning revenue. It is impossible to fix a date at present, but it will take at least six weeks after the underframes are out for the rolling stock to be ready, so that it would not be safe to reckon on anything earlier than July (1910)."

The above report was submitted February 28, 1910. Since that time satisfactory progress has been made. The last brick was laid in the Beacon Hill tunnel in February and the materials necessary for the temporary equipment have been received. The estimates for the year include $585,606 for excavations in Hung Hom cutting and reclamation, and for general earthwork $1,492,974. The length of the British Section is 22 miles.

Work on the Chinese section is progressing. About 30 miles were in operation from the Canton end in March and about 50 miles of the right of way had been purchased and entered upon at the end of last year. As soon as the British Section is completed to the boundary, work will begin on the Kowloon end and with the transportation of facilities afforded by the British line it is expected that great progress will be made. It is also expected that the Chinese Section will be opened for traffic July 1, 1911. The Chinese Section is 89 miles in length making upon the completion of both sections a direct connection between Hongkong and Canton over a line of 111 miles.

---

## THE CANTON-HANKOW RAILWAY

The latest word on the prospects of the Canton-Hankow Railway refers to the agreement among the different groups of British, German, French and American capitalists as to the distribution of a Chinese loan of £6,000,000 to be utilized in the construction of the Canton-Hankow and the Hankow-Szechuan lines. The preliminary steps towards the arranging of the loan with the Peking authorities had been suspended on account of the impossibility of the different groups interested agreeing upon the allotment by nationality and the conditions under which the construction would be carried out. With the satisfactory adjustment of these differences, the preliminary steps will be resumed at Peking towards a conclusion of the loan agreement. The foreign ministers of the countries interested have been requested to open negotiations for the early conclusion of the contract. It is understood, that in view of the apparently growing influence of those opposed to a foreign loan in Hupeh and Honan where the money is to be spent in the construction of the Canton-Hankow, that the matter will be pressed. According to the best information, the terms of the agreement are the most favorable of any loan arranged with China.

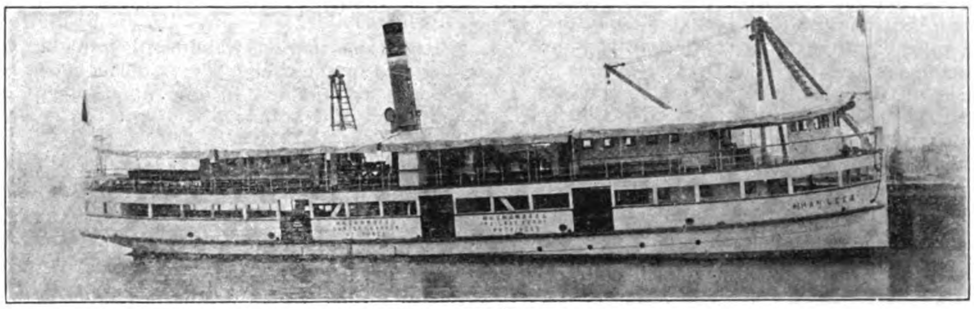
According to the *London and China Express* the bankers announce that the agreement between the four groups gives equal opportunity to furnish materials and in tendering for supplies.

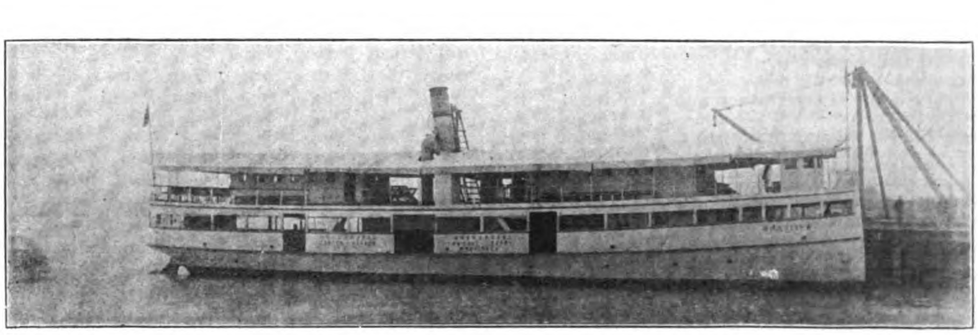
The British secure the engineering rights for the Canton-Hankow section and the Germans for the Hankow-Ichang-Kwangsui loop with the exception of 200 kilometers over which the Americans are to have engineering rights. The French have no engineering rights. The line from the head of the Yangtsze to Chengtu is equally divided and on other extensions, as to the chief engineer and purchasing agent, the selection will be made first by the United States and then Great Britain and France in sequence. The amount of the loan will be divided equally among the groups.

Since 1905 the construction of the line in Kwangtung has been under the direction of the Canton Commercial Company, and the sections in Hunan and Hupeh were to be built by the officials and gentry of those two provinces. It might be said that activity has been confined to the Cantonese company, the progress made on the Hunan and Hupeh sections being very disappointing. It might be said that the greatest harmony did not prevail among the stockholders of the Cantonese Company, but under the direction of Sir Liang Cheng Tung more satisfactory results were had.

At the end of May this year construction work was being carried on over about 150 miles of line and over 50 miles were open from the Canton end northward. The construction in sections and at various stages of progress has reached Chu Chou and from that point to the Hunan borders engineers have been busy on final location. Of the main line about 115 miles have been laid with steel and utilized in furthering construction.

The first branch of this line connecting Canton and Sam Shui, 32 miles in length, was completed in 1904, and a line connecting the Ping Shiang coal mines with Chu Chou, 70 miles in length





CANTON-SHEKWAITONG FERRY BOATS

was completed in 1906. The work on the main line commenced from the Canton end in 1904.

Early this Spring it was reported that the affairs of the Cantonese Company had reached a crisis. Orders for the cancellation of orders for material were issued and one of the foreign engineers dismissed. This trouble seems to have passed away and work was later resumed. Much delay is caused by the difficulty of securing land for the right of way for which exorbitant prices are sometimes asked by owners and there is no way to acquire the land except by patient negotiation. This added to the limited means of the company for pursuing the work proves a serious handicap.

The correspondent of the *North China Daily News*, writing from Chu Chou in April, stated that several engineers who had gone over the construction had expressed the opinion that the line was being too well made and that a more temporary construction would have served until the line became a revenue producer. The work of excavation had been progressing very favorably on the eighth section which includes the Blind Boy's Pass, but was suspended at that time. The correspondent also states that tons of scaffolding had been erected preparatory to sinking foundations for the Yingtak Bridge which is 700 feet in length. North of Shadow on the eleventh section rock excavation work was progressing.

The Canton-Hankow line as surveyed is about 700 miles in length and the branches will aggregate 150 miles.

## THE CHANG-WEI RAILWAY KALGAN-SUIYUAN EXTENSION

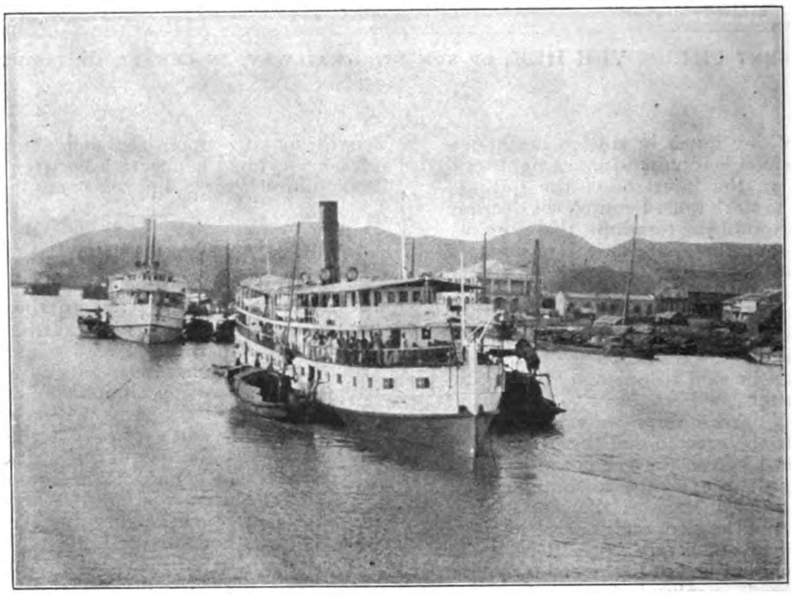
The proposed construction of an extension line of the Peking-Kalgan Railway to Suiyuan has been approved and sanctioned by the Throne according to official report. At the completion of the Peking-Kalgan Railway preparations were made by the construction of an extension line either to Changkien or Changshui, and for this object a survey was made by the engineering staff of the Peking-Kalgan Railway of the vicinities of the proposed lines with the result that the line to Changshui was adopted which will be of more advantage and convenience to traffic. This line will traverse Kuei-Hua, Sui-Yuan, etc., and has a length of 689 li, the cost of its construction is estimated to be Tls. 10,660,000. As cold winter will set in very early in the year, when work can be carried on for a period of 6 months, it will take eight years to complete this line. The income of this line will be immense as it traverses all the important centres of markets for coal, grains, skins and other commodities in addition to the heavy traffic along this line. The funds for the construction of this line are supplied by the profits of the Peking-Kalgan Railway.

To construct a great trunk line passing Mongolia to Kulon by extending the Peking-Kalgan line has been the desire of the Chinese Government for many years, says the *China Tribune*, but if the line were built in a direct northerly direction from Kalgan, it would pass through a district lacking substantial traffic. It was then proposed to extend to Mai-Mai-Cheng, and Assistant Engineer Yu Jeng Feng was dispatched to survey the line, and upon his report action has been taken and a route decided upon.

At first two lines were taken under consideration, one running to the south and the other to the north approximately. Then a compromise route was agreed upon that would run from Kalgan in a south-westerly direction passing through Tien Chin, Yang Kou to Ta T'ung Fu, Shanshi. Then from the last named point in a northerly direction through the Sheng Kou Pass outside the Great Wall to Feng Chin from which point the line would run west to Mai-Mai-Cheng and Wei Yuan Cheng after passing through Ning Yuan and Ho Lin Ko Lu. From Mai-Mai-Cheng a branch line is to be built to Ho Kou on the bank of the Yellow River.

This route, while circuitous compared with the direct northern line proposed, taps the rich coal deposits near Ta T'ung Fu and the rich farming districts in the north and south which will make it pay from the beginning of operations. It will also have the benefit of all the carrying trade of the leading commercial centres of Mongolia and at the same time aid in the colonization of the rich and fertile regions not yet inhabited. Besides the minerals, grain, etc., the fur, wool and hides traffic is enormous and will increase as the benefit of rapid transit is appreciated. Even as a feeder to the Peking-Kalgan, already a paying railway, it would be a good investment.

The line from Kalgan to Wei Yuan Cheng is 689 li (230 miles) and from Mai-Mai-Cheng to Ho Kou 111 li (48 miles). Tls. 2,000,000 will be made available annually from the profits of the Peking-Mukden and Peking Kalgan for this construction which will probably be completed in about eight years. The construction will be directed by the management of the Peking-Kalgan line.



WATERFRONT AT KENGMEEN

## STEAM DEVELOPMENT

Mr. R. H. Thurston of Cornell University states in an article written by him for the *Encyclopedia Americana* that, in the year 120 B. C., there was found at Alexandria a manuscript which proved to be a Hero's "Pneumatica,' and although the power of steam in connection with some sort of an engine has undoubtedly been known to mankind since the prehistoric period, this, however, is the first record of the steam engine and describes what is, in all probability, the most simple steam turbine possible of construction.

There is, however, very little record of anything like a steam engine of today until 1705 when there was patented by Thomas Newcomen and his partner, John Calley, the first properly so-called steam engine. This consisted of a steam cylinder and piston actuating a beam above, from which was pendant the pump rod operating the pumps in the shaft of a mine; it was always used as a steam pumping engine, but was later improved by the addition of various valuable devices which gave James Watt his fame and fortune. This type engine became known later as the Cornish engine, and after Newcomen's death, was further improved in details by Desaguliers and by Smeaton. In 1718, the first automatic valve-motion was carefully designed by Henry Beighton. This, with Watt's invention of the separate condenser, the steam jacket, double-acting engines, the governor, etc., step by step, produced the engine that is the real basis of those we have in use at the present time.

From the small engines of the early part of the 19th Century, to those of the present time, is a change a little hard to appreciate, for it is estimated that the work of the world is performed by steam engines mainly, probably amounting to 150,000,000 h. p and equivalent to the working power of several times the population of the globe, if employed in manual labor.

The wonderful growth of the steam engine is further evidenced by a letter recently received from the Penberthy Injector Company of Detroit, stating that on March 29th, 1910, Injector number six hundred thousand (600,000) was stamped and recorded ready for delivery. When we stop to consider that the above company, the largest manufacturers of injectors in the world, has since 1887 made 600,000 of their automatic injectors, we obtain some idea of the large H. P. of the boilers which must be in operation at the present time, for it has been carefully estimated that 600,000 (size 2½″) GG Penberthy Injectors would force into a boiler against 90 to 100 lbs. pressure over 1-3 of the amount of water that is constantly going over Niagara Falls, which is approximately 125,000,000 to 150,000,000 gallons per minute. This when transformed to steam at 70 lbs. pressure is sufficient to develop power amounting to approximately 700,748,661 horsepower, or very near five times the estimated horse-power of the world's steam machinery.

Should the growth of steam power increase in the next hundred years as it has in the past, we will have as a result a combined horsepower capable of performing work the magnitude of which would be so great as to be almost inconceivable to the average person of to-day. The likelihood of the development in steam power during the next century, however, is not so much in a larger number of engines and boilers, although this is, through the natural growth of the universe, inevitable to a certain extent, but rather in an increased efficiency in those power plants which are to replace those that, because of age and wear, are constantly being discarded.

## STUDY OF TRADE CONDITIONS IN ORIENT

*(Continued from page 40.)*

the other portions of her own domain Why should not the great wholesale merchants of Chicago, the Great Central Market, not only take what the Philippines have to offer, but sell her people, and the people in the neighboring territory, a share of what they are sure to want to buy. So far as China is concerned, and that is the great field of promised outlet, the feeling is more friendly toward America than towards any other nation. Everywhere, too, even in the Philippines and Japan, the Chinese are the merchants of the country. The American merchants, who will study their methods and establish relations with the Chinese merchants outside the border of China, will have prepared themselves for conquest in China.

"But there is the other story hinted at in the beginning of this chapter, which I had almost overlooked. Prior to the Japanese war the greater part of the trade which Americans had established in China was being done in Manchuria. It was the one place where we had gotten a foothold. You will begin to understand the significance of Secretary Knox's suggestion that steps be taken to secure neutrality in the operation of the railways of Manchuria and Korea when you are made familiar with the reports which are everywhere current of what has happened in these districts—along the lines of railway which the Japanese secured as the result of their successful war with Russia —and on roads through Chinese territory.

"The Japanese are aggressive—there can be no question on that score. Naturally they have believed that certain things belonged to them by right of conquest. The imperial government owns and operates practically all the railways in Japan proper. The government has come into possession of the chief lines of road in Manchuria and Korea. These lines are policed by the Japanese. Many troops are still in Manchuria for this kind of duty. Chinese merchants who were given for a long time to buying a generous portion of their stocks from American merchants, as well as from the merchants and manufacturers of Great Britain and Germany, it is charged, have lost trade to the Japanese, who were encouraged to flock into Manchuria and Korea, and who have been given preferences in service and in rates on the imperial government railways, and who have also been able to escape taxation by methods which need not be described, and who have held, rent free, in the face of the demands of the Chinese, buildings which were taken and occupied during the war.

"They will tell you everywhere outside of Japan that the 'open door' does not exist in this particular portion of China, and that Secretary Knox, in making his proposal, has made a bold demand for all the players in the game here in the Far East to show their hands—and particularly for Japan to show her hand. There can be no question that Japan is anxious, above all other nations, to control the trade of China. It may be necessary for America to do business with the Orient through Japan. But Japan is not rich in raw materials. In fact, if she is to command the situation as a manufacturer she must buy her raw materials where they are to be found.

"If the merchants of America are to get a share of this Orient trade they must get near to it. They must know it. They must be on the ground. They must study the needs and the opportunities—the people and their tastes and business methods. This cannot be done at long range. It may be done from American soil at close range. And this is where I get back to my original proposition that if the merchants of Chicago, the Great Central Market, who are nearer this field than any of the big merchants of the nation, want this trade, they should establish themselves in Manila.

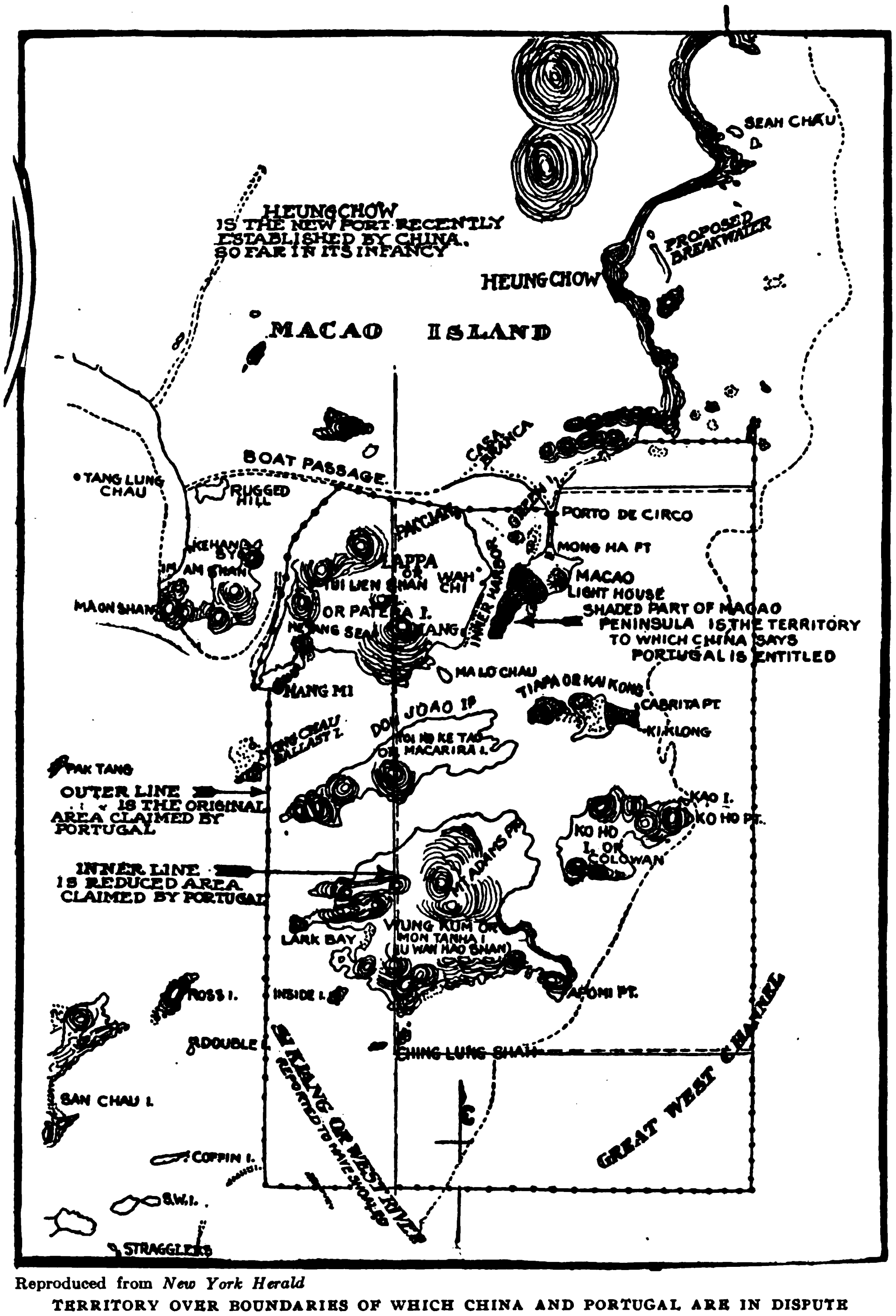
"And as a condition precedent to such a plan, I am going to suggest here, and when I get home again, that the next trade extension excursion fathered by the Chicago Association of Commerce be one to the Orient, and particularly to Manila."

# THE MACAO BOUNDARY DISPUTE

Little has been heard recently of the negotiations towards the settlement of the boundaries of Portuguese jurisdiction over the colony of Macao, but there is every indication that before any definite settlement may be reached there must be a further adjustment of the attitude of the Chinese. And confronted with the threatening attitude of the radicals in South China, Peking must continue her policy of equivocation.

Chinese and Portuguese Governments. Sir Joachim Machado, K.C.M.G., represented Portugal and H. E. Kao Ehr Kim, China. Hongkong was chosen as the place for the conference and several meetings were held without making any definite headway and suddenly, on November 13, it terminated. The matter was then referred to Pekin and little has been heard from it since then.

It appears that the Chinese representative




Reproduced from *New York Herald*

TERRITORY OVER BOUNDARIES OF WHICH CHINA AND PORTUGAL ARE IN DISPUTE

It will be remembered that the question of jurisdiction was raised in the early part of 1908 when the Japanese steamer Tatsu Maru was seized by the Chinese authorities in the waters of Macao while endeavoring to land a cargo of arms. The Portuguese Government asserted that the vessel was seized in Portuguese waters and therefore not amenable to Chinese jurisdicton. Portugal claimed jurisdiction over littoral waters by right of treaty and the authority of international law. China replied that Portugal was not entitled to any measure of maritime control in the waters referred to. A conference was then arranged between the

was greatly restricted in his powers and paid more consideration to maintaining an attitude throughout the conferences that would placate the radical anti-Portuguese element in South China than to a comprehensive discussion of the merits of China's cause. On the other hand the Portuguese representative was clothed with unlimited powers and went thoroughly into the question on its merits.

Macao was settled by Portuguese in 1557, over three centuries and a half ago. They paid ground rent ranging from $500 to $700 a year up to 1848 when this charge was abolished, and later, on March 26th, 1887, China

confirmed 'the perpetual occupation and government of Macao and its dependencies by Portugal, as any other Portuguese possession." Ratifications were exchanged the following year, confirming this article of the treaty and stipulated that "Commissioners appointed by both Governments shall proceed to the delimitation of the boundaries, which shall be determined by special convention; but so long as the delimitation of the boundaries is not concluded, everything in respect to them shall continue as at present, without addition, diminution, or alteration by either parties."

In the commercial treaty signed at Shanghai in November, 1904, between the two powers, the only reference made to Macao waters was the provision in Article 4 or co-operation between the Portuguese and Chinese authority in suppressing smuggling. The words were, "Such steps as are necessary for the repression of smuggling in the territory and waters of Macao shall be undertaken by the local Portuguese Government in concert with the Commissioner of the Imperial Maritime Customs and similar steps in the Chinese territory and Chinese waters near Macao shall be taken by the Imperial Maritime Customs in concert with the Portuguese Government of Macao. This co-operation is intended to render such steps effective on all points in respect of which co-operation is needed, and to avoid, at the same time, any injury to the sovereign rights of either of the High Contracting Parties. Special delegates from the local government of Macao and the Imperial Maritime Customs shall proceed to fix the respective zones of operations, and shall device practical means for the repression of smuggling."

The Chinese near Macao are anxious to drive the Portuguese out and take little pains to conceal their feelings. They object particularly to the control of the inner harbor by the Portuguese and will go no further than to divide this jurisdiction which, if arranged, would prove ridiculous on account of the narrow character of the waterway. The necessity of a long breakwater to make a port at Heungshan is the only obstacle in the way of severe competition to Macao.

Peking is handling a delicate situation due largely to her lack of control of South China and its people. In order to properly consider an adjustment of matters with Portugal she must first be in a position to enforce her authority in the disaffected section. At the present time, it must be admitted, the Imperial authorities are in an embarrassing position. To proceed to an adjustment of differences with Portugal would mean nothing short of rebellion with the danger of international complications which China in her weakness must make sacrifices to avoid. In postponing the adjustment indefinitely she exposes her national weakness.

Of the attitude of the Chinese of South China during the conference, Mr. W. H. Donald, correspondent for the *New York Herald*, writes an interesting chapter. Mr. Donald is one of the old guard of British journalists in China, having been for years editor of the *China Mail* and in a position to familiarize himself thoroughly with the situation. He writes:

"The gentry and peasantry of Heungshan, the district adjoining Macao, were influenced by the agitators, formed societies of their own, and joined in the movement. They ultimately worked themselves up to such a state of alarm that they saw a Portuguese invasion imminent. Steps were at once taken to cut off Macao's food supplies, and the word went round that every second able bodied man was to be enlisted in a "volunteer" organization. Appeals were made to the Viceroy of Canton for a force of soldiers and artillery, but the Viceroy snubbed the applicants by telling them that he knew better than they when and where to send soldiers.

"The Canton agitators had in the meantime overrun themselves by the irresponsibility of their utterances and orders to the Viceroy from Pekin brought about their temporary suppression. Public clamor ceased for a time, but a private propaganda was instituted which had the effect of, if anything, further inflaming the public mind.

"The ignorant were told that Portugal had no shred of right in Macao at all, that the whole of the territory occupied had been filched from China, and that the hearths and homes of the Heungshan people were in danger. And the ignorant were not slow to signify that they were ready to assist in not only defending their homes but in chasing the Portuguese into the sea."

"In reality Mr. Kao Ehr Kim is a cultured, fair minded man who was in a decidedly awkward hole. The recipient of frequent letters threatening assassination if he conceded any of Portugal's demands, the butt of a stream of cablegrams from Chinese from all parts of the world warning him that Chinese rights must be upheld by him and not one particle of Portugal's claims be conceded, and the victim of a group of designing men who harried him even to bringing about his impeachment upon imaginary charges by the Board of Censors at Pekin, he was afraid to move.

"He listened with patience to the evidence of centuries adduced by the Portuguese to demonstrate their right to the occupation of Macao and to the dependencies as claimed by them; he heard their interpretation of treaties; he saw that they had much on their side, and he thought of the grave trouble that would arise if he made even one suggestion contrary to the ideas of the Heungshan people.

"He knew they had decided upon open revolt against both China and Portugal if any more territory than the minimum of about two square miles they had fixed upon was granted to Portugal. He knew the Heungshan gentry had despatched a cablegram to the Wai-Wu-Pu conveying a warning that the people would forcibly resent any action conceding Portugal territory or giving her jurisdiction over the wholeof the inner harbor and the littoral waters, and he decided to refrain from committing himself, jeopardizing his life and property and perhaps precipitating a revolt against the throne.

"Throughout the whole conference he maintained a demeanor stolidly in support of the claims of the people, his sole object being to bring the negotiations, so far as he was concerned, to an end and leave the subsequent arrangements to Pekin.

"These tactics soon wearied General Machado, who, in addition to voluminous evidence, produced a plan showing the claims of his country. At first he proposed that the boundary should embrace some one hundred and twenty square miles, but, finding the Chinese commissioner obdurate, he reduced that to about sixty square miles.

"Still Mr. Kao Ehr Kim showed no desire to make a compromise. Several conferences were confined to futile argument on the part of General Machado and evasive replies by the Chinese commissioner, and by the time the eighth had been concluded General Machado determined that the next one would bet he last.

"However, Mr. Kao can scarcely be blamed for endeavoring to hold out to the last. He was forced to make good to his government, and he felt it would be fatal just at this juncture to counter public wishes. He did the next best thing, according to Chinese conceptions, by attributing the abortiveness of the commission to his 'lack of talent' and to the 'sustained demand for territorial expansion by the Portuguese.'

"Before separating General Machado suggested that the matter should be submitted to arbitration, but Mr. Kao Ehr Kim could not recommend such a course to his government, he said, since it was unprecedented. He, however, promised to refer the whole question to Pekin.

"Shortly after the negotiations were suspended your correspondent endeavored to ascertain the exact points in dispute and the views adopted by the two sides, and, having been successful, he is now able to give the opinions of the Commissioners themselves upon precise points.

"At the outset it must be explained that the treaty of 1887 gave Portugal the right to occupy and govern as any other Portuguese possession the colony of Macao and its dependencies, as she then occupied and governed them. The territory and water comprised about one hundred and twenty square miles, and this area the Portuguese originally claimed, but reduced it later to sixty square miles, as mentioned in a previous paragraph, in order to induce the Chinese to come to a settlement. But the Chinese Commissioner would make no departure from the claims of the people that despite the treaty the Portuguese were only entitled to about two square miles at the southernmost part of Macao Peninsula and to no water rights whatever. A glance at the accompanying map will show the impossible position Portugal would be in were she forced to accept such conditions.

"Mr. Kao Ehr Kim when approached for a statement hesitated to commit himself to any remarks.

"'I have my opinions,' he said, 'and now is not the time nor place to express them.' But upon being pressed to give the points emphasized by the public and which he put forward Mr. Kao said:—

"'First, the popular idea is that Portugal is claiming more territory than she is entitled to. She asks for the large islands of Lappa, Don Joao and Wun Kum, where there are no signs of occupation and each of which is many times larger than the Peninsula of Macao itself. The Portuguese claim these to be dependencies of Macao, but really they have for all time been under the dominion of China, which fact is established by the constant presence on the island of Lappa of Chinese soldiers and by periodical visits of soldiers to the islands of Don Joao and Wun Kum. The Chinese are astonished at Portugal claiming these islands.

"'Second, with regard to the inner harbor and sea about Macao, which the Portuguese demand, these waterways were under the dominion of China before the signing of the treaty in 1887, but since then the Portuguese have usurped control and have prevented Chinese officials from exercising any jurisdiction whatever. Lappa is Chinese territory, and yet Portugal claims that she has entire right to control the inner harbor, a fact which, if we admitted it, would deprive China of means to freely use her own territory. This is contrary to international law, and as Portugal claims the whole of the water China feels she is more than justified in doing the same for and on her own behalf. China has, indeed, more paramount right to control this harbor because she has a greater extent of territory bordering it and because the whole of the territory thereabouts originally belonged to her. As the Portuguese refuse to diminish their demand in regard to the harbor and seas, the Chinese are compelled to stand firm for their rights, and thus the Portuguese themselves have rendered further negotiations impossible.

"'Third, cargoes of smuggled arms frequently pass through Macao into China, and the Kwangtung populace, who are the direct sufferers from bandits and pirates so armed, are not so satisfied with the administration of Macao as they are with that of Hongkong. If the Chinese, therefore, give Portugal too much territory and sole jurisdiction over the waterways this traffic will be aggregated rather than reduced, and China will be unable to check it. The Tatsu Maru affair in itself shows how Portugal winked the eye at this business.

"'Fourth, it is true that China has recognized the occupation and government of Macao and its dependencies, but after the treaty was signed some villages now claimed by Portugal were under the dominion of China. Portugal contends that these villages are part and parcel of its territory proper, whereas China is ready to concede them as dependencies. Portugal does not regard them in that sight, however, declaring the term dependency to mean territory and water out of Macao. Therefore, if Portugal contends that dependencies are out of Macao proper the villages alluded to should not be claimed by them at all, since they form part of China and have been under her jurisdiction since the treaty. The Chinese are prepared to concede these villages and some land on Taipa and Colowan islands which bears traces of old occupation, but the Portuguese are not satisfied, wanting the whole of the two islands as well as others.'

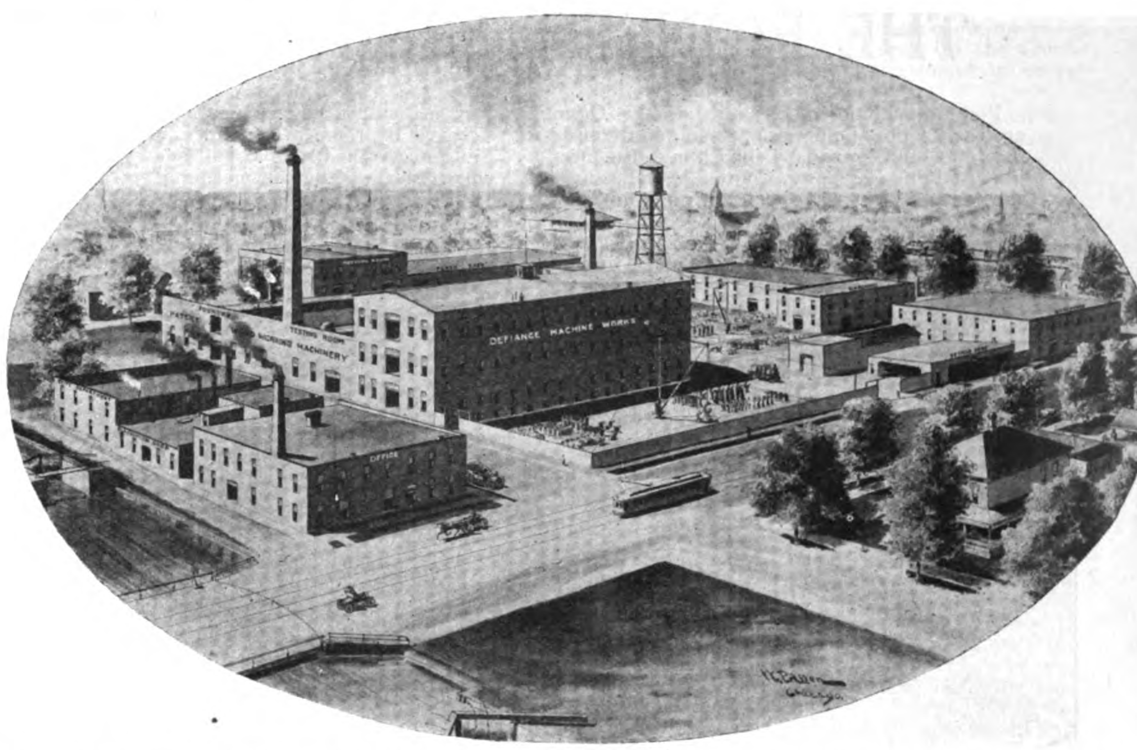
"In reply to the above arguments General Machado said:—

"'First—The Island of Lappa, Don João and Wun Kum, which the Chinese state bear no evidences of occupation by the Portuguese, are in a more or less undeveloped state of colonization. Lappa, so far as its proximity to Macao is concerned, is under the immediate dominion of the Macao government, and in addition it bears marked traces of ancient convents, churches and other Portuguese settlements. From the earliest times until the present the Portuguese have relied upon and have used the waters from the spring on Lappa Island for drinking, potable and sanitary purposes, and this source of supply is and always has been a necessary and unavoidable possession of Macao. The exigencies of self-protection and adequate defence have also always required Lappa to be under Portuguese dominion, and the latter point practically holds with regard to the other islands claimed. On the island of Don João evidences of occupation of a very practical character exist, and have existed for very many years in the shape of a leper asylum, a charitable institution built and maintained by the Portuguese for the sole benefit of the Chinese, and this effectively does away with the Chinese claim that no traces of occupation are to be found there. So far as the island of Wun Kum is concerned no Chinese authority exists or makes pretensions of existing, and the only authority recognized by the Chinese inhabitants who may happen to be there is that of Portugal. That the Chinese have a few braves on Lappa is not denied, but their presence there has been since the signing of the treaty in 1887 and is in distinct violation of that treaty.

"'Second—It is an absolute Chinese inversion of the truth when they state that before and up till 1887 the inner harbor of Macao and the Macao littoral waters were under Chinese jurisdiction. The settlement of the Portuguese was practically induced in the very first instance by the presence of the harbor, and in 1845 the harbors of the colony were, in a constitutional Portuguese law, publicly declared free to the trade of the whole world, and no objection whatever came from China. The captains, officers and crews of all steamers and boats which have entered the harbor during the last fifty years can certify that they have never encountered any but Portuguese authority. The wharves of the company trading between Macao and Hong Kong were built with Portuguese consent: steamers have paid the dues to the Portuguese Treasury and the harbor regulations have always been issued by the Portuguese. Years before the treaty was ever thought of Portugal expended something like $50,000 a year upon harbor police, the harbor master's department and launch and boat equipment, while not a single cash has ever been expended by the Chinese nor has a single Chinese policeman or officer been there for duty in the recollection of living man. Certainly the revenue cruisers connected with the imperial maritime customs anchor in the harbor, but they interfere in no way with the control of the harbor, and are not permitted to pass beyond certain limits defined by Portugal as far away as 1868. The inner harbor, as controlled by Portugal, washes nothing but Portuguese territory, and if this territory originally belonged to China—although she has not exercised jurisdiction of it as it has not belonged to her for 352 years—as claimed, she has no basis for the statement that the Portuguese usurped control since 1887, because the treaty of that year recognizes Portugal's jurisdiction and perpetuates it.

"'Third—The stress that is laid upon the smuggling of arms and the allegations connected therewith are childish. Every time that China has requested Portugal to prohibit the export of arms and ammunition she has met with cordial and ready compliance. Smuggling, if it exists—although very strict regulations are in force in Macao to prevent it— is carried on by Chinese, and the fault is directly with the Chinese authorities themselves for allowing smuggled arms to pass the customs barriers. Macao is a free port, and although endeavors are made just as China makes them to prevent smuggling it is ridiculous to endeavor to blame Portugal because arms are allowed to pass the Chinese customs and so obtain entry into Chinese territory.

"'Fourth—The statement that the villages inside the barrier built by the Chinese in 1575 were and are under the dominion of China is an absolute falsehood. Such villages did not exist before 1688 and permission to establish them was granted by the Portuguese, who have since maintained jurisdiction over them. The peninsula was always Portuguese territory, and comprised Macao city and suburbs, and only absurd reasoning would for a moment regard these villages as being dependencies of Macao, as claimed by the Chinese. It is only the subtle "logic" of the Chinese that can presume to divide the peninsula of Macao so that one part will be the dependency of the other, and it is arrant nonsense for any one possessing faculties for just thought to aver such a thing, especially as the whole peninsula has been under the jurisdiction of Portugal for centuries, and has, at all events, been recognized by China in a treaty since 1887. The statement that only portions of Taipa and Colowan islands bear traces of occupation is another affirmation peculiarly Chinese. In these particular islands there are not only traces of ancient occupation by Portuguese, but there are extant solid marks of actual settlement in the shape of fortresses, churches, piers, roads, municipal buildings, markets, schools, rifle ranges, military and police garrisons, and some heavy artillery.'"




HUGE PLANT OF THE DEFIANCE MACHINE WORKS, DEFIANCE, OHIO; ONE OF THE LARGEST MANUFACTURERS OF WOOD WORKING MACHINERY IN THE WORLD

THE FERRO MOTOR CONQUERS DANGEROUS WATERS

## THE ONLY MOTOR BOAT THAT EVER RAN THE SNAKE RIVER RAPIDS, WASHINGTON

We are fortunate in being able to show in this issue a picture of the "Flyer," the motor boat whch is owned by Glover and MacFarlane, Asotin, Wash., which is successfully navigating the dangerous Snake River Rapids in low water stage, a feat which no other power boat has ever dared to do.

The "Flyer" was built under the personal supervision of Mr. E. G. MacFarlane, one of the ablest and most experienced boatmen in the Pacific Northwest, who for many years has filled practically every position on boats in British Columbia and Puget Sound, and whose knowledge of nautical matter is very thorough.

The "Flyer" is equipped with a 25 H. P. Ferro of which Mr. MacFarlane recently said "our engine can be depended upon to carry us through dangerous places without stopping."

In applying for a license for the "Flyer" Mr. MacFarlane's papers were endorsed by several of the best and oldest captains that ever directed a boat on Snake River. The "Flyer" was constructed especially for the accommodation of the mining trade, plying between Asotin and the mining section.

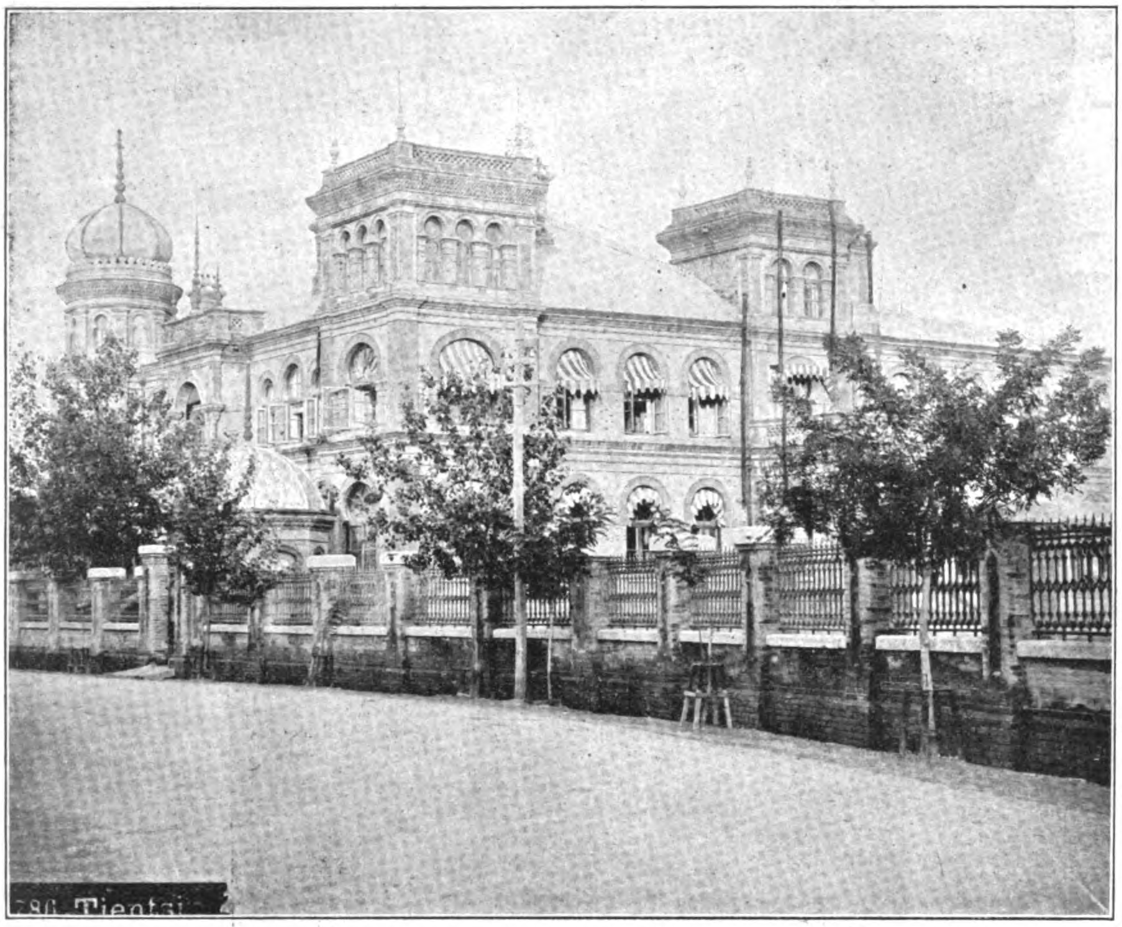
# THE PIONEER MINING ENTERPRIZE IN CHINA

Foremost among the mines of the Orient are the Kaiping Collieries operating in the province of Chihli, owned by the Chinese Engineering & Mining Company, Limited, which, during the past six years, have been controlled with conspicuous success by Major W. S. Nathan, R. E.

Coal, quaintly described by Marco Polo as "black stones," appears to have been in common use in China for many hundreds of years, certainly long before its properties were recognized in Europe. Unfortunately, there is no record of the romantic incidents which must have been associated with the early discovery of these particular coal deposits, but it is safe to assume that the location of such an abundant supply of the rich, bituminous mineral so peculiar to this field and which, outcropping for a distance of 27 miles, could be easily attacked by the Native miner, must have revolutionized the trade conditions of the greater part of the province of Chihli.

Towards the year 1878 such of the coal outcrops as could be mined by the use of Native methods and appliances had been exhausted and the Native owners of the land, believing that the mines were of no further commercial value, were quite willing to transfer their interests to Tong King Sing, an enterprising resident of this district, who, with the influence of the late Viceroy Li Hung Chang, established a company composed entirely of Native investors with the object of working the mineral on foreign principles.

In 1879 the first Colliery to be worked by Western methods in China was opened at Tongshan; in 1889 the Linsi Colliery some seventeen miles from the parent shaft was established and in 1894 the North West shaft Mine lying in the vicinity of Tongshan.



HEAD OFFICES OF THE CHINESE ENGINEERING AND MINING CO., LTD., TIENTSIN

Perhaps the most interesting historical feature of this enterprise is that surrounding the building of the first railway in China. In 1880, the company having constructed a canal with a view to the economical distribution of their output and primarily to reach the sea board, found that engineering difficulties prevented the extension of this waterway to the mines, the head of which was distant some miles. The first railway constructed in China was a link between the mines at Tongshan and the head of the canal. To the surprise of the Natives the evils which they anticipated would follow such an innovation were not realized and later this railway was extended to the Port of Tongku. Not only had Native prejudice by this time been overcome but it had been demonstrated to an impoverished Government that the railway was a great money earning institution and it was forthwith taken in hand by the Chinese Imperial Authorities. This line has since been extended to Peking and Moukden and is now known as the Imperial Railway of North China.

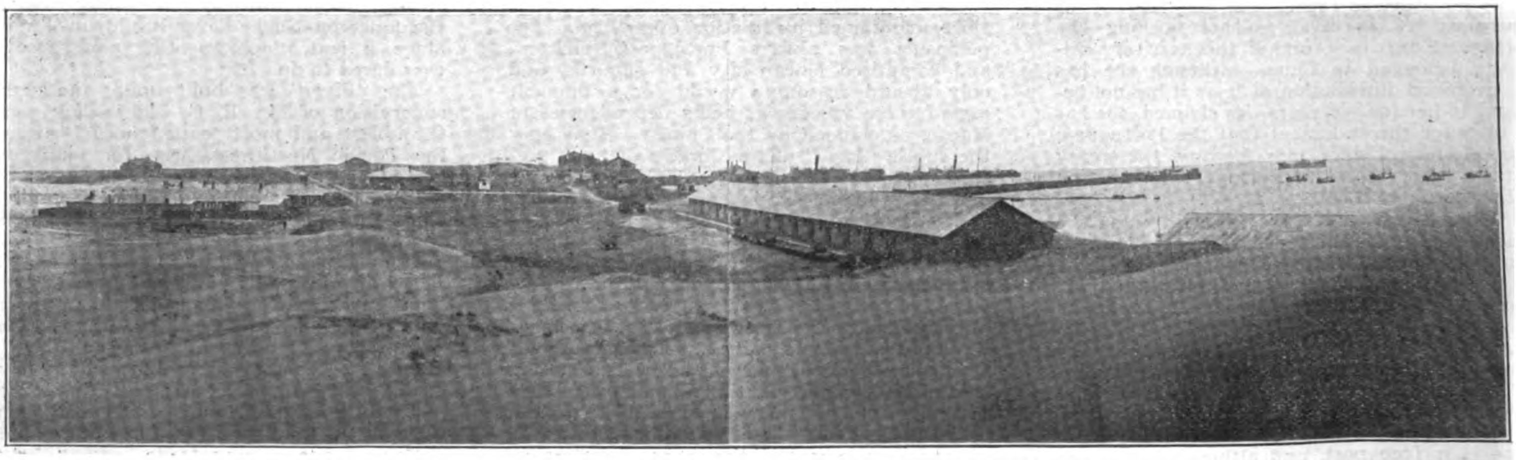
On the development of the Company's over sea trade it became necessary to establish a line of steamers, and the first steamer of the "Ping Line" was purchased in 1887.

The company having access to the sea only through the Port of Tongku found their shipping interests seriously handicapped by the difficulties attending the navigation of the Taku Bar and the Pei Ho River and by the complete cessation of traffic during the winters when this port was ice bound. The extension of the Railways opened up facilities for the removal of these shipping obstructions and for the construction of an ice-free and deep water port at Chinwangtao on the Gulf of Pechihli.

Notwithstanding that for twenty years or more the Company had prospered under the wise and broad-minded direction of Native Officials, financial and engineering difficulties arose which rendered it desirable to place this now huge undertaking in the hands of Europeans, and in 1900 the whole of the interests were transferred to the Chinese Engineering and Mining Company, Limited, the present owners.

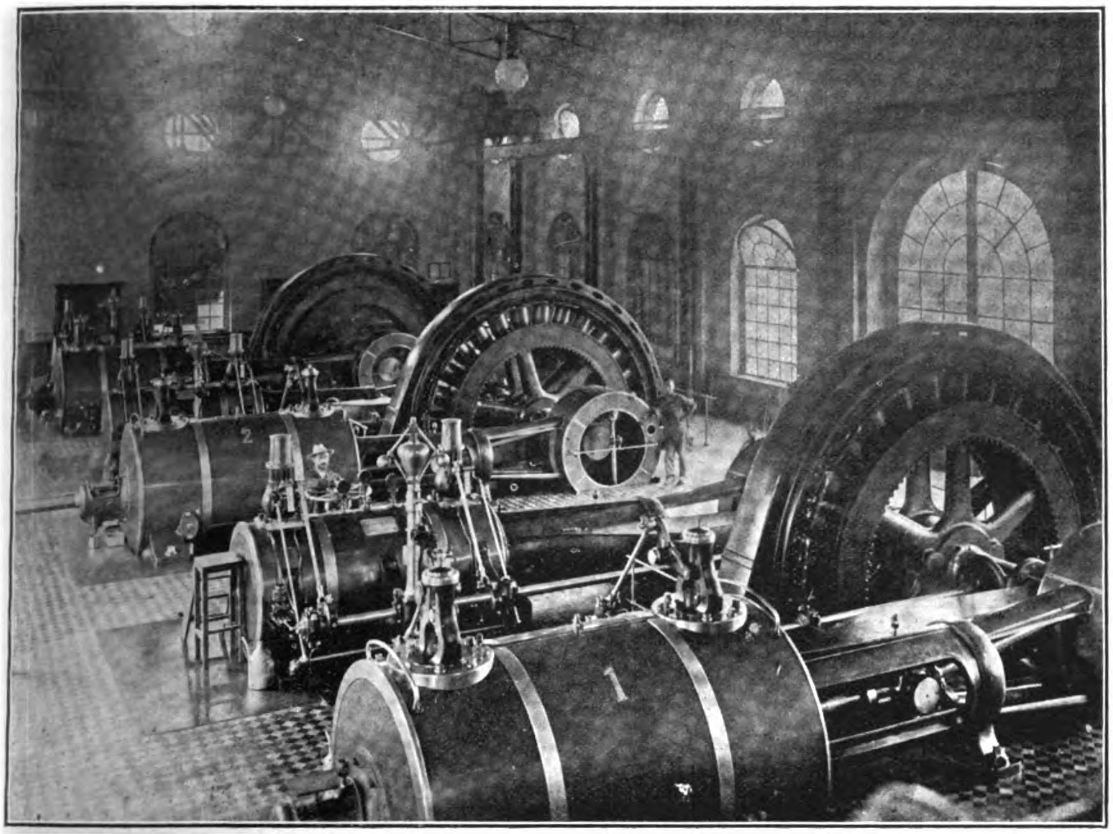
The geological features of this area have been described as under:—

"Rising like islands out of the great alluvial "plain, there extends eastward from Tongshan "to Linsi a low range of limestone hills forming "roughly the axis of a great anticlinical fold "in the underlying rocks. Flanking these sub-"carboniferous limestone hills and dipping away "steeply to the South are the coal measures "buried by the alluvial, except the rim. The "coal outcrop around this rim is traceable by "almost continuous Chinese workings for a



THE PORT OF CHINWANGTAO, THE OUTLET FOR THE PRODUCT OF THE CHINESE ENGINEERING AND MINING CO., LTD.

"distance of 27 miles. Overlaying the lime-"stones are from 300 to 900 feet (varying with "locality) of shales and slates containing some "very valuable strata of pottery and fire clays. "Upon this series rests the productive coal "measures consisting of coal, slates and sand-"stones aggregating about 800 feet in thickness. "The coal lies on a high angle averaging 45°. "There are seventeen seams, of which 6 to 8



ELECTRICAL INSTALLATION AT THE TONGSHAN COLLIERY OF THE CHINESE ENGINEERING AND MINING CO., LTD.

"are workable, and these workable seams have "an aggregate thickness of from 60 to 95 feet."

Under the present able management, and with the assistance of highly qualified engineering experts, the mines have been brought to a high state of efficiency as will be apparent from the following description of the leading features of the machinery:

In addition to the usual steam haulage having a maximum capacity of 8,000 tons per day, there is an electrical installation employed in pumping and lighting reputed to be the largest electrical plant in the East. This installation at the Tongshan Colliery described briefly consists of 12 Cornwall-Galloway boilers of the latest pattern; two "Becker" feed pumps; two Green's economisers, with electrically driven scraper gear; three van den Kirckhove S. S. W. type steam alterators having a capacity of 1300 K. V. A. three phase at 2200 Volts, 107 revolutions, 25 cycles per second; three motor generator sets and one steam exciter set are provided for excitation and lighting purposes; a "Balcke" cooling tower for the condensing water complete with its electrically driven centrifugal pump for 330,000 gallons per hour. The surface of the Mine is lit by 48 arc lamps of 800 and 1400 c. p. and 300 glow lamps of 16 c. p. and 220 volts. Underground there are 5 motordriven Sulzer type centrifugal pumps having an individual capacity of 1200 gallons per minute against a head of 750 feet. There is a similar installation at the Linsi Colliery.

Employment is given directly and indirectly to some twenty-five thousand Natives. The districts affected by the mines may be considered among the most prosperous in the Empire of China and the contented populace realize to the full the benefits arising from the development of the natural resources of the country by means of foreign capital and foreign enterprise.

The several grades of coal mined by these Collieries enabled the company to meet any naval, industrial or domestic requirements and the high class steam raising navy lump used by the Chinese and foreign men-of-war is as popular as the cheaper quality slack coal supplied to the native brick burner.

A large percentage of the output is sold in oversea markets, some as far distant as San Francisco and Singapore, while regular deliveries of coke making coals are being made to the large ironworks in Japan. On the China Coast Kaiping coals may be found in every port.

The special coking qualities of this coal has induced the company to erect an extensive coal washing and coking plant of the most modern pattern, the construction of which is in hand.

Another of the interesting adjuncts of the coal mining industry is the manufacture of firebricks and fireclay, tiles for roofing and flooring, salt-glazed stoneware pipes, while considerable attention is being given to the production of glazed ware of every description and of flintine paving tiles. The firebricks of the well-known "C E M C L" brand are practically the only refractory bricks used in China. They are not unknown on the Pacific Coast of America and in the Federated Malay States. The plant of the brickworks, in keeping with the mining plant, is of the newest design and electrically driven.

The Port of Chinwangtao, intended at first as a coal jetty for the shipment of Kaiping coals, has, under European control, been developed on more generous lines with a view to attracting deep sea and coastal shipping and is now an admirably equipped shipping port replete with its Custom House, extensive godowns and efficient loading and unloading facilities. The wharves are connected with the Northern Railway systems by a branch line and cargo may be landed at all the principal trade centres without transhipment. Passenger trains run alongside the steamers and connect with the Mail trains of the Imperial Railways of North China.

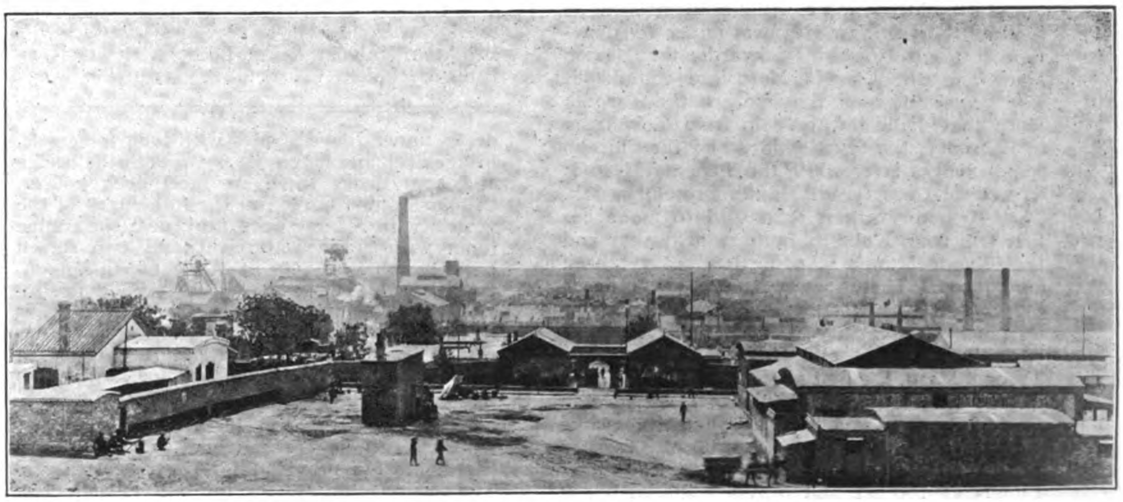
In addition to the transportation of coal to the various China Coast ports and the conveyance of general cargo the "Ping Line" steamers, owned by the Chinese Engineering & Mining Company Limited, afford the quickest sea route to the North, enabling passengers to make the journey between Shanghai to Tientsin and Peking in about 60 hours. The S. S. "Kaiping" (2500 tons) engaged in this trade is one of the largest and most comfortable steamers running in these Seas.

---

WANTED—BY AMERICAN MANUFACTURER, reliable firm or individual to act as exclusive sales agent for a wonderful bath invention. Attaches to any water faucet and can be used in homes without bath rooms or running water. Selling possibilities are unlimited. This is an exceptional opportunity to establish a permanent and very profitable business on cash discount basis. To secure attention, give full details concerning past and present business and references.

THE PROGRESS COMPANY

*Chicago, Illinois, U. S. A.*



TONGSHAN COLLIERY, CHINESE ENGINEERING AND MINING CO., LTD.

## THE OSAKA SHOSEN KAISHA AMERICAN LINE

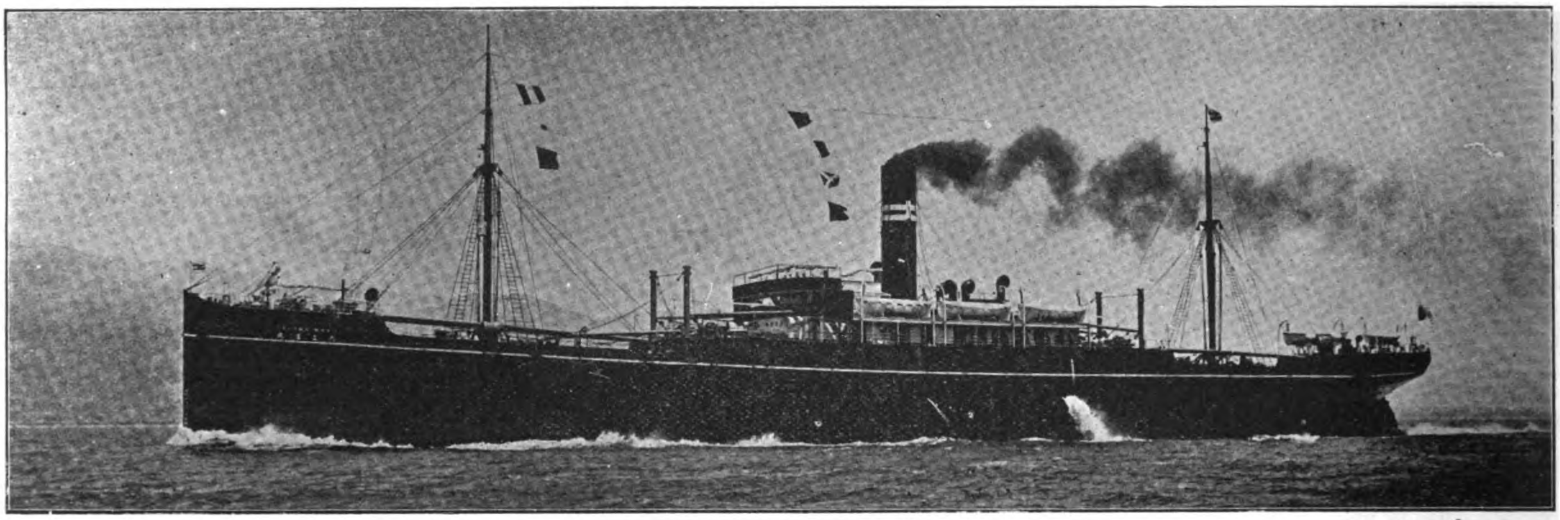
The announcement of the inauguration early this month of the Chicago, Milwaukee and Puget Sound Railway Company completes the fastest and most effective service from the Far East to Chicago and eastern points in connection with the splendid fleet of vessels of the American line of the Osaka Shosen Kaisha operating in conjunction from Hongkong Manila via China and Japan ports to Tacoma.

The Chicago, Milwaukee and Puget Sound road now operates two through limited trains between Seattle and Chicago daily and these will be supplemented by a score or more of local trains to cover the intervening territory. It will require sixteen trains to maintain the two daily through flyers. The new route is 200 miles shorter than any existing line to Chicago from the coast.

By an arrangement between the Osaka Shosen Kaisha, special attention will be given through freight traffic. Fast freight will make close connections so that the time from Chicago west on outward and such as tea trains east will be greatly shortened. Some records are expected in the near future in competition with existing lines and their steamship connections in the Pacific.

The Osaka Shosen Kaisha Service was inaugurated in April this year and there are now four steamers of 12,000 tons making Manila, Hongkong, Shanghai, Moji, Kobe, Yokohama and Tacoma almost every fortnight and a regular fortnightly service will be maintained as soon as the two new steamers under construction at the Kawasaki Dockyards, the Mexico Maru and the Canada Maru are completed. The vessels now on the line are the Tacoma Maru that made its first trip from Yokohama in February, the Seattle Maru and the Chicago some months later while the Panama Maru is advertised to arrive at Manila September 8th. The Mexico Maru is scheduled to make her first trip from Kobe in January next year and the Canada Maru's schedule has not yet been announced. These six vessels were ordered especially for this service. Besides the American line this company has a fleet of 130 vessels operating in home and Oriental waters. The Tacoma Maru, the first of these six to be placed on the run, may be taken as a model of the other five. She is a twin screw steel vessel of 12000 tons displacement and 6,178 tons register with a net tonnage of 3,833. She is classed at Lloyds as 100 A1 and draws a special bonus from the Japanese Government. There are two decks under Lloyd's rules with long forecastle, bridge deck and long poop. On both the bridge and boat decks there are steel deck houses. Cellular double tanks run the full length of the vessels with a large deep tank near the engine room with seven watertight and two screen bulkheads. Two sets of triple expansion engines capable of a speed of 15.5 knots are installed. The freight handling machinery is most complete. Several small cranes are installed and in addition a large crane with a lifting capacity of thirty tons for large cargo is available.

The vessel is steam heated and equipped with electric light throughout. Special compartments are provided for silk and treasure. The accommodations for the officers and crew are up to date and commodious.



S. S. "TACOMA MARU," OF THE OSAKA SHOSEN KAISHA

# CONTRACTING NEWS

TENDERS ACCEPTED.—Shanghai Municipality. One Screw Cutting Lathe, delivered in four months. The tender of Messrs. Innis & Riddle for the supply of lathe manufactured by Messrs. London Bros., Glasgow, £248. The other bidders were:

| | Price £ | s. | d. | Delivery. mths. |
|---|---|---|---|---|
| Samuel McGregor & Co. Ld. | 180 | 0 | 0 | 6 |
| Shanghai Machine Co. | 205 | 10 | 0 | 4 |
| Samuel, McGregor & Co. Ld. | 220 | 0 | 0 | 6 |
| T. Firth & Sons, Ld. | 39 | 0 | 0 | 1-3 |
| Westphal, King & Ramsay, Ld. A. | 52 | 16 | 0 | 3 |
| B. | 34 | 2 | 0 | 3 |
| C. | 40 | 10 | 0 | 3 |
| D. | 29 | 6 | 0 | — |
| Shanghai Machine Co. | 44 | 12 | 0 | 2½ |
| Samuel, McGregor & Co., Ld. | 44 | 12 | 0 | 2½ |
| Jardine, Matheson & Co., Ltd. | Tls. 376.68 | | | immediate. |
| Jardine, Matheson & Co. Ld. | 550 | 0 | 0 | 2½ and £19 extra. |
| Samuel, McGregor & Co. Ld. | 265 | 0 | 0 | — |
| Shanghai Machine Co. | 285 | 10 | 0 | 4 |
| Andersen, Meyer & Co. | 293 | 0 | 0 | 3 |
| Samuel, McGregor & Co. Ld. | 298 | 0 | 0 | — |
| Inniss & Riddle | 472 | 0 | 0 | 4 |

For One Shaper Machine, delivery two and one-half months, Messrs. Jardine, Matheson & Co. Ltd. £136 was accepted. Other bidders were:

| | Price £ | s. | d. | Delivery. mths. |
|---|---|---|---|---|
| Shanghai Machine Co. | 94 | 10 | 0 | 3 |
| Andersen, Meyer & Co. | 185 | 0 | 0 | 3 |

126 Dozen Files. Tender of Messrs. Westphal, King & Ramsay, Ltd., £35 or £17 10s. for half the number, accepted. The other bidders were:

| | Price £ | s. | d. | Delivery. mths. |
|---|---|---|---|---|
| Brighten, Malcolm & Co., Ld. | 30 | 12 | 0 | 2½ |
| Innis & Riddle | 37 | 10 | 0 | 3 |

PRIVY PURSE DEPARTMENT, BANGKOK. Construction Official Home for Advisor, Ministry. Agriculture—the following bids were opened:

| | |
|---|---|
| Howarth Erskine Ltd. | Tcs. 58,750 |
| G. Kluzer and Co. | Tcs. 59,000 |
| M. Cacace | Tcs. 60,000 |

U. S. ARMY TRANSPORT CONTRACT AWARDED. —Messrs. Dodwell & Co., agents for the Blue Funnel line, were successful bidders. Their bid was $3 U. S. C. from Seattle to Manila on general cargo, coal and grain and $7 on lumber per m. This contract represents an estimate of 60,000 tons of freight and 9,000,000 feet of lumber.

U. S. QUARTERMASTER'S DEPARTMENT.—OFFICE FURNITURE. This contract represents approximately $8,000 and was awarded Messrs. The Cadwallader Lumber Company of Manila. This contract was in addition to an order for $40,000, U. S. C., placed with this company

BUREAU OF INSULAR SUPPLY, PHILIPPINES.—40,000 tons coal. Contract awarded Messrs. Macondray & Co.

40,000 BARRELS CEMENT. The following bids were opened:

Messrs. W. H. Anderson & Co. being the lowest bidders, and Messrs. Wise & Co. the highest. The following were the bids; Messrs. W. H. Anderson & Co., Green Island cement ₱4.0.9-712, Messrs. Smith Bell & Co., Ltd., Dragon Brand, ₱4.52, Messrs. Behn Meyer & Co., Ltd., ₱4.168, Messrs. Findlay & Co., ₱4.54, and Messrs. Wise & Co., Ltd., ₱4.76. All the bids were in Philippine currency and were duty paid delivered ex godown.

BUREAU OF PUBLIC WORKS, MANILA.—Construction, Moncada School Building. The following bids were presented: Coleman and Goodman, ₱15,968, time for completion 150 days. Manila Sawmill Company, ₱19,000, time for completion 180 days. The bids were taken under advisement.

# FAR EASTERN RAILWAY NEWS

FINANCING CHINA'S RAILWAYS.—A Peking dispatch is to the effect that H. E. Hsu Shih-chang, President of the Board of Posts and Communications, has decided to arrange for a loan of Tls. 400,000 from the Deutsch-Asiatische Bank to construct the Ichow-Kiaochow branch of the Tientsin-Pukow, owing to the lack of funds available. President Hsu Shih-chang has also decided upon a program of encouragement of railway companies organized by local capital, by sending a number of experts to investigate the condition of the railways with the object of financing the different projects by taking them over where funds are not available.

---

DAIREN RAILWAY WORKSHOPS.—A large order for equipment for the new railway workshops of the South Manchuria Railway at Shakako, near Dairen, has been secured by Messrs. Thomas Robinson & Son, Ltd., of Rochdale, against a large number of American, German and British competitors. The order includes the equipment of three departments: one, for the sawmill and woodworking machinery for manufacturing the heavier timbers for railway carriages and cars, a plant for the lighter construction and interior fittings and a pattern department. The plants will utilize electricity for motive power.

---

THE SHANTUNG RAILWAY DISPUTES.—Owing to the failure of negotiations towards a settlement of the disputes over railway questions between the German authorities and the Govvernor of Shantung, the German minister has recommended that the matter be referred to Berlin and adjusted through the Chinese minister there. The question at issue between Germany and China is, whether or not the railway from the Chefoo to Kaiphong *via* Weishen shall or shall not call at Kaomih. The Germans naturally desire that the line shall call at the last-named place, and we do not understand that any substantial objections to such a route have been formulated. But it appears to be thought that the future of Chefoo depends upon the decision, for if the road be deflected to Kaomih, Kiaochou will usurp the place hitherto held by Chefoo.

---

THE SHANGHAI-NANKING ESTIMATES FOR HALF-YEAR ENDING DECEMBER 31, 1910.—In submitting the estimate for last half of the current year General Manager A. Pope states that the increases in expenditure are the natural outcome of the increasing age of the line and the necessity of maintaining the equipment in condition. "The increase in expenditure in locomotive, carriage and wagon department, though mostly for coal," he writes, "consequent on the increased train service is higher than it should be; not because of the want of care of the executive officers, who have done well, but because our rolling stock is not being treated fairly. 'The stitch in time which saves nine' is not possible because all our rolling stock is running every day. All our auxiliary forms of rolling stock such as cattle trucks, ice and fish trucks, horse boxes, 75 of our covered wagons, etc., are makeshifts built with packing cases and other workshop cuttings. These make heavy maintenance." "And further," he says, "I cannot help pointing out that the amazing development of the coaching traffic (suffering from no other disabilities than fair competition, which we have beaten), fortifies my firm conviction that if the goods traffic were freed from its present discriminate incubus, the Likin, it will develop under the same administration that foster the coaching traffic, with like results, thus making the line pay its guaranteed interest of 5% or more."

We quote the following:

"The estimate of Coaching earnings allows for an increase of $78,000 in round ordinary figures. Under ordinary conditions this would appear to be somewhat optimistic, but the development during the past six months has been so much in excess of expectations that this fact, coupled with the opening of the Nanking Exhibition, gives every hope of the estimate being realised. The Exhibition ought to bring us a good deal of traffic in the coming half-year, as though opened in the early part of this month, it is not likely to be really for some little time yet.

2.—In estimating the Goods earnings a small allowance has been made for a development in traffic. It is also hoped that a portion of the shortage in Tribute rice which has fallen below last year's figures by about $35,000, will be offered for carriage before the close of the year.

3.—Great difficulty has been experienced in framing this half-year's budget owing to the lack of an adequate traffic under the head Goods. The General Manager has pointed out that the cost of Abstracts A, B and C are steadily increasing because of heavier repairs being necessary, and though in past half-years the phenomenal rise in Coaching traffic has compensated for this it is not likely to continue to do so much longer.

The following table shows the development of Coaching traffic as compared with Goods.

| | June, 1908 Actuals | December, 1908 Actuals |
|---|---|---|
| Coaching, (a)........... | 677,062 | 716,529 |
| Goods....(a)........... | 96,988 | 44,231 |

| June, 1909 Actuals | December, 1909 Actuals | June, 1910 Probable | December, 1910 Estimated |
|---|---|---|---|
| 780,699 | 771,558 | 850,000 | 850,000 |
| 115,609 | 73,501 | 120,000 | 100,000 |

(a) Chingkiang-Nanking section on 1st April, 1909. The following table is of interest as showing the estimated percentages of working expenses to gross earning for successive half-years:—

| Half-Years | Estimated | Actuals |
|---|---|---|
| June, 1909....... | 68.33 | 66.12 |
| Dec., 1909....... | 72.81 | 69.18 |
| June, 1910....... | 64.85 | |
| Dec., 1910....... | 70.78 | |

4.—It will be noticed that only under Abstract A has any appreciable deduction been made for supervision charges debitable to Capital Account. This is due to the expected completion of the major portion of the works connected with the Woosung Scheme during the half-year.

The marked increase under head III is due to the necessity for heavy repairs to approach roads at Shanghai, Chinkiang and Nanking and in the Cho Lou Kou cutting. Under head IV the rise is due to increasingly heavy repairs and repairing.

5.—Under Abstracts B and C provision is made for the greatly increased running expenses due to the extra train service provided for the Nanking Exhibition, and also for the increasing cost of repairs to locomotives and vehicles, especially the latter.

6.—In Abstract D the increase under head I is due partly to increases of pay and establishment and partly to provision for passages and acting allowances given for leave vacancies. Under heads II, III and IV provision is made for the increased train service.

It is satisfactory to note reduction in the cost of Handling Charges which is due to the rates having been considerably reduced this year.

7. In Abstract E. the increases under the head II, 1 and 2 are due to the same reasons as for I in Abstract D. Under the head II, 3 the increase is due to a small share only of the total cost being charged to capital.

The increased provision under the head II, 13 is due to the reconstruction of the Telegraph line.

8.—In Abstract G. under head VI provision is made for hiring five coaches built for the Kiangsu Railway. Under head VII the rise is due to an expected increase in the amount of small coin to be received.

H. MIDDLETON,
*Chief Accountant.*

BUDGET ESTIMATE OF REVENUE AND EXPENDITURE

| HEADS. | *Percentage on gross earnings.* | ACTUALS for half-year ended December, 1909. $ | BUDGET ESTIMAT for half-year ended December, 1910. $ |
|---|---|---|---|
| Receipts. | | | |
| Coaching traffic earnings... | | 771,558 | 850,000 |
| Goods traffic earnings..... | | 73,501 | 100,000 |
| Telegraph traffic earnings.. | | 226 | 250 |
| Sundries traffic earnings... | | 34,751 | 24,750 |
| Total Earnings (I)...... | | 880,036 | 975,000 |
| Add decrease or deduct increase in balance of "Traffic Account" as per Appendix A............... | | 720 | 5,000 |
| Deduct decrease, or add increase, in balance of "Foreign Railways" as per Appendix A......... | | 233 | 50 |
| Total Receipts (II).... | | 879,549 | 980,050 |
| Maintenance of Way, Works and Stations (Abstract A)........ | 10.92 | 102,648 | 106,500 |
| Locomotive Expenses (Abstract B)............. | 20.21 | 169,689 | 197,000 |
| Carriage and Wagon Expense (Abstract C)........ | 5.79 | 46,517 | 56,500 |
| Traffic Expenses (Abstract D).... | 13.50 | 112,082 | 131,500 |
| General Charges (Abstract E).... | 17.44 | 154,321 | 170,000 |
| Flotilla Expenses (Abstract F).... | 0.05 | 176 | 500 |
| Special Expenses (Abstract G).... | 2.87 | 23,392 | 28,000 |
| Total Working Expenses (III)... | 70.78 | 608,825 | 690,000 |
| Add increase or deduct decrease, in balance of "Misc. Advances" as per Appendix B........... | | .... | .... |
| Deduct increase, or add decrease in balance of "Demands Payable" as per Appendix B............ | | 15,016 | 5,000 |
| Net Expenditure (IV)..... | | 623,841 | 695,000 |
| Net earnings (I—III)...... | | 271,211 | 285,000 |
| Net receipts (II—IV)...... | | 255,708 | 285,050 |

| | |
|---|---|
| Number of miles open for traffic on 31st December, 1909............ | 203 |
| Opened during half-year ended 30th June, 1910..................... | Nil. |
| Total on 30th June, 1910..... | 203 |
| Expected to be opened during half-year ending 31st December, 1910.. | Nil |
| Total likely to be open on 31st December, 1910.................. | 203 |
| Average number of miles expected to be open during the half-year ending 31st December, 1910............ | 203 |
| Train miles expected to be run during half-year ending 31st December, 1910..................... | 485,000 |
| Cost per train mile, deducting earnings from Telegraph and Sundries. | 1.37 |

Considered and approved

M. Y. CHUN,
*Managing Director,*

A. POPE,
*General Manager.*

Dated, Shanghai, 21st June, 1910.

SLEEPING CARS FOR THE SHANGHAI-NANKING RAILWAY.—The workshops of the company turned out its first sleeping coach June 16 and it was commissioned for the passenger traffic to the Nanking Exposition. The car is 68 feet in length supported on two four-wheel bogies

with accommodation for 17 persons. It is divided into two sections, eight berths being reserved for ladies.

The berths in the male compartment are constructed on the sides of the car and in the ladies' compartment are in pairs with the head to the side of the car. There is plenty of provision for ventilation and the car is lighted with electricity and has an electrically installed bell service. Two of these cars are now reported completed and in service. One of these cars is reserved for foreigners and the other for Chinese.

SZECHUEN-HANKOW RAILWAY CONSTRUCTION.—A dispatch from Ichang is to the effect that 100 miles of this line between Ichang to Hsiang Chi has been laid. The Engineer in Chief, H. E. Jime Tienyue, states that, owing to the heavy tunneling, this road will prove very expensive and will cost about over Tls. 110,000 a mile.

KOREAN RAILWAYS.—Reviewing the progress of railway construction in Korea the *Chamber of Commerce Journal of Yokohama* says:

"The estimates of the present fiscal year allot 3,500,000 yen for the construction of railways in the Peninsula. Reconstruction work on the Seoul-Wiju Line will mainly be carried on between Tosong and Hanpo, some 20 miles in length, and between Tongim and Yangchaik, of about the same length. These sections of the line were rather rapidly completed at the time of the Russo-Japanese War, and it is expected that the incline will be altered from 1-40 to 1-100. The work on the line will be completely finished in the course of next year, at a cost of 2,000,000 yen. Following this work, there is also the reconstruction of temporary bridges and embankments, which will cost 1,000,000 yen. Work is now being carried on practically along the whole line. The construction of railway stations is also to be commenced this year, the total amount for this work being estimated at 5,000,000 yen. This work will extend over three years. The estimates for the construction of the Seoul-Wonsan and Honan lines for the present fiscal year amount to 235,000 yen. The land survey for both lines has already been commenced, and actual construction will be commenced in September this year, the work of the former being started at Yongsan and of the latter at Taichon. The projected Seoul-Wonsan line, which is 136 miles in length, will pass through the districts of Euichongpu, Yunchon, Cholwon, Pyongkang, and Punsulyong, while the main line of the Honan railway will go to Kunsan through Kangkyong and a branch line to Mokpo via Chyongeup Changsong and Laju. The total length of this line is about 174 miles. The railway authorities intend to complete the work on the Honan railway first, building temporary bridges, etc., at first. It is hoped by this means to open the line to traffic after five or six years. The construction of the Pyongyang-Chinnampo line, 34 miles and a half in length, was started last year and the work is now being vigorously pushed on. It is expected that the line will be opened to traffic in the course of this year."

PHILIPPINE RAILWAY CONSTRUCTION.—Arrangements are being completed for the official opening of the Philippine Railway Company's line on the Island of Panay, August 27, and it is proposed to invite Secretary of War Dickinson to officiate at the ceremonies during his visit. This line is 72 miles in length and all but a gap on the northern end of about nine miles between Dao and Panitan is now completed. This company recently inaugurated a through rate agreement from points along the line in Cebu and Panay to Manila and other coastwise points and vice versa with the Compania Maritima, Messrs. Ynchausti y Ca. and the Interisland Express Company. The agreement goes into effect July 20.

GREAT NORTHERN COACHES NAMED FOR PHILIPPINES.—This company has named two of its new sleeping cars for Manila and Luzon. These cars will operate between Seattle and St. Paul and are indicative of the interest of Mr. Hill in Philippine trade following his initiative in making Manila the terminus of his line of steamships.

TIENTSIN-PUKOW (SOUTHERN SECTION) CAR TENDERS.—A rush advertisement was published on July 1 calling for tenders for six first and second class composite cars and twelve third class cars. The tenders had to be in before ten o'clock on July 7, just six days after the proposals were invited.

CHINESE EASTERN TIMBER CLAIMS.—The Chinese government has agreed to compensate the company in the sum of $160,000 for new timber destroyed by the Hunghutze.

THE SOUTH MANCHURIA RAILWAY COMPANY.—At the half-yearly meeting last month the net earnings for the line amounted to yen 4,085-832 which together with the amount forward from last account made yen 6,280,804 available for distribution which was disposed of as follows:

| | Yen. |
|---|---|
| Legal Reserve | 204,291 |
| Dividend to the Government | 2,500,000 |
| Dividend to Shareholders (rate 6 per cent.) | 600,000 |
| Special Reserve | 1,000,000 |
| Rewards to officials and expenses of entertainment | 200,000 |
| Brought Forward | 2,316,513 |

This is the first term in which the railway has paid a dividend on the Government investment of 100,000,000 yen. President Nakamura expressed himself in an optimistic vein and stated that the overseas trade of Manchuria had now reached yen 200,000,000 annually. By November next he prophesied that the Antung-Mukden line would be open from Mukden to Penhsihu at one end and to Kikwanshu from the Antung end with the whole line in operation in the Spring of 1912.

THE SOUTH MANCHURIA RAILWAY STATE CARS.—The first state cars made at the railway shops of this railway were tried out last month. They cost yen 40,000 a car and were made from materials imported from England, Germany and America. The work is reported by experts to be excellent, the workmanship superb, and equal to the output of any western shop. The car has a length of 72.5 feet and is divided up into twelve compartments, each seven feet wide. There are toilet rooms each for ladies and gentlemen and also a train attendants' room. The corridor is about 30 inches in width and five folding seats are located on the side and through the entire length of the car. The partitions are removable between four of the compartments. The average compartment contains two berths in double deck and a folding table and two of them contain each four berths and a folding table.

CHINESE CONTRACTORS GET CONTRACT ON THE KIRIN RAILWAY.—Only one Japanese contractor managed to secure a contract in competition with Chinese on the construction of the Kirin-Chanchun Railway and the Chinese are elated over their success, according to a Dairen report.

THE CHEKIANG RAILWAY.—At a meeting of the shareholders of June 19, a resolution was adopted to the effect that, as the Board of Communications had not complied with their agreement to pay a deposit, that it should be cancelled and that the payments on shares for the fourth and fifth periods should be made within the fourth period. President Tang was appointed to conclude negotiations for the cancellation of the agreement with the Board.

ANOTHER RAILWAY PROPOSAL.—A project is on foot to build a railway from Shanghai to Chinshan, a distance of about 70 miles starting at Pootung and proceeding via Chuansha, Nanhui, Fengsien, Huating to Chuansha. It will be a light railway, and the estimated cost is placed at Tls. 1,000,000. An application is reported to have been made to the Board of Communications by Mr. Lee Yun-shu, chairman of the municipality of the Native City at Shanghai.

DOUBLE TRACKING THE SHIMBASHI-YOKOHAMA LINE.—The Railway Board has secured title to a large portion of the land necessary to carry out this project which includes not only double tracking the line but widening the gauge to standard as well. Tenders will soon be asked for the construction of the new bridge to accommodate the two tracks on the lower side of the Rokugo bridge. Director Furukawa of the Central Railway Superintendence Bureau proposes to abolish the present Kanagawa and Hiranuma stations and to construct a large central station to accommodate the traffic. There is some objection to this and the matter is in abeyance.

SIAMESE SOUTHERN RAILWAY.—According to the *Bangkok Times*, a large amount of the necessary construction material will arrive in August when tracklaying will commence, and by that time 150 kilometers of embankment will be ready for the rails. At the present time the engineers are devoting their attention to bridge and earth work to be prepared for the reception of materials.

P. & O. AGREEMENT WITH THE JAPANESE IMPERIAL RAILWAYS.—On July 1st an agreement went into effect providing for the issue of railway tickets at the ports of call or on board the steamers of the P. & O. for all classes of passage without extra charge for the railway journey from Yokohama to Kobe and Moji and vice versa. The Japanese Government has long had a similar agreement with the Nippon Yusen Kaisha and the Great Northern and will extend these privileges to other companies.

PUNISHING HUPEH AND HUNAN AGITATORS.—A Hankow special to the *Tokyo Asahi* says the Peking Government has just ordered Viceroy Tang to close up the Hupeh-Canton-Hankow and the Szechuan-Hankow Railway Bureaus and also to abolish the Railway School. This is understood to be the result of the strong opposition to the raising of foreign loans in connection with those projected railways. The Government knows well enough the funds needed cannot be raised among the people of Hupeh; but to avoid the brunt of their attack, it has decided to give up the foreign loan plan for the time being, to see what the Hupeh agitators will do in the matter. But, as the result of this order, the Japanese engineers in the employ of the Canton-Hankow Railway Bureau and the Japanese teachers in the Railway School will be disengaged. As to the Japanese engineers in the Szechuan-Hankow Railway Bureau they are at present engaged in getting up railway estimates. They will be discharged at the end of three months when the compilation of the estimates will be finished.

THE CHINCHOW-AIGUN RAILWAY.—The British Consul at Newchwang in his report states that "the importance of Newchwang as a commercial port should be further enhanced by the construction of the proposed railway from Chinchow to Aigun, for though the intention of the Chinese Government is to make Hulutao, a natural and ice-free harbour on the coast 35 miles south-west of Chinchow, the sea terminus of the line, there can be no doubt that Newchwang will obtain a considerable portion of the trade which the line should soon develop along its route. At present Hulutao is a wretched fishing village which it will take many years and a considerable expenditure of capital to convert into an important commercial base. Chinchow itself is a small but fairly flourishing town, situated about 100 miles west of Newchwang, with which it is connected by the Imperial Chinese Northern Railway. The proposed line is intended to develop the Mongolian districts, lying west of the Japanese and Russian railways, in Manchuria as far as Tsitsihar, where it meets the Trans-Siberian Railway. Thence the line is to be continued due north

# PHILIPPINE MINING NEWS

THE RAGAY GULF EXPLORATION COMPANY.—A new mining district of the Philippines has sprung suddenly into notice through the incorporation of the Ragay Gulf Exploration company with a capital of a million pesos to test and develop 5,000 acres of placer ground and other properties located by Mr. Henry Bode and associates during the past two years. The company has sent a mining engineer, graduate of the Michigan College of Mines, into the field to test the placers of which there are three main groups, that accurate information may be secured and to determine what style of dredge will work to best advantage.

Ragay gulf is on the Pacific Ocean side of the island of Luzon and the new gold field is just across the range from the Paracale and Mambulao districts, about 25 miles away as the crow flies. Little is known as to the geology of this side of the range as yet, although rock slides of the formations are now being made under the direction of geologists of the Bureau of Science who investigated the field. The geologists tested the creeks along which the placer ground lies and found gold, but made no tests of the placers. Borings made by the locators showed from 84centavos to ₱2 generally, while some tests made by persons who desired options ran much higher, some up to ₱20.

The company, however, in drawing up its prospectus, has thrown out all these high value tests since the conditions under which they were made are not known.

Beside the placers, the company owns a group of copper claims on which float assaying five per cent copper has been found. Tunnels are now being driven to get under the strong hematite cap which is believed to cover veins of the red metal. A large area of coal lands also has been located and a ten inch vein has been found. Float on the property indicates much thicker veins and the company has been advised by the Division of Mines to make further investigations. Shafts will be sunk on the coal lands at once.

One feature of the promotion work of the company is that all stock other than a small block issued to defray the preliminary testing and early development work, has been placed in escrow to prevent any of the smaller holders from selling stock under the market price and thus interfere with the company's plan. The policy of the company now is to determine accurately what values it may expect to return to the purchasers of stock before buying expensive machinery that might, as has been proved in the case of other companies, prove unsuited to the ground. The officers are: Mr. Henry Bode, president; Mr. D. R. Williams, secretary and treasurer. Directors are: Mr. C. M. Cotterman, Insular Director of Posts; Mr. George C. Sellner, real estate broker, Mr. José Moreno Lacalle, Attorney, and Mr. P. L. Bryant.

THE GOVERNMENT COAL MINES ON BATAN.—Mr. J. H. Williams, C. E., of the Quartermaster's Department has been ordered to Ligilan, Albay, to take charge of construction work in connection with the coal mines there. It is understood that the development work will be pushed on the deposits and more extensive investigation made of varieties of coal to be found. Secretary of War Dickinson proposes making an investigation of the property during his visit to the Philippines.

NEW PROMOTING FIRM.—Mr. A. Heise, formerly general manager of the Philippine Exploration Company, has resigned and is now associated with Mr. R. Leneau of Manila and will continue promotion work in the islands. Mr. Heise is the pioneer promoter of mining in the Philippines and has met with unusual success in interesting capital in development. The prospects of unusual activity in mining there promises a bright future for this enterprising firm.

PHILIPPINE EXPLORATION COMPANY'S NEW OFFICES.—The offices of this company and also of the San Mauricio Gold Mining Company have been removed from Plaza Moraga to the Paris Building at No. 34 Escolta, Manila. Mr. G. T. Bridgeman, the manager, arrived in Manila during the month from Shanghai and proceeded to Paracale to look over the company's properties. Mr. G. C. Ripley of the engineering staff is in charge of the office during Manager Bridgeman's absence.

REPORT ON MASBATE PROPERTY.—Mr. Blake, who has been examining the Masbate properties upon which the Philippine Exploration Company has an option, submitted his report recently and we are advised that this report has been forwarded to Shanghai. It is expected that its nature will be given out in the near future.

PARACALE DREDGING.—The Stanley Dredge has been active during the month and 140 ounces are reported. The company has not yet reached the richer deposits and the savings are only nominal. There is prospect that the other dredges in the Paracale district will soon have gotten over their troubles. The Paracale Gold Dredging Company has had to suspend work while they constructed a new dredge. Reports from the district are to the effect that the dredge which has double the capacity of the old one is now at work and that the future looks bright for large returns. The pontoons are built of hard wood and covered with felt and tar below the water line to protect the wood from insects and it is expected that they will serve indefinitely. The crushing plant and concentrators ordered by the company to mill the quartz taken from the ground are now on the ground and will be installed.

HEISE ON THE SAN MAURICIO.—Owing to the many rumors in circulation regarding the San Mauricio plant, at the request of the *Free Press*, Mr. Heise, then general manager, gave out the following statement:

"At the San Mauricio mines the usual delays incident upon starting operations, at a new mine and in a new country, have inevitably postponed the day when both the mine and the mill will be running at full capacity. Local provisions for fuel and water have proved inadequate; and to run at a reduced capacity would have been an unwise and uneconomical procedure. It has therefore seemed best to await the installation of the tramway, the construction of cascos to handle fuel, and the arrival of a sufficient pump to supply water. The mill will not be started until it can be run continuously and at its full capacity; it may be another month before the necessary arrangements have been made therefor.

"In the meantime, development work and the blocking out of ore is being continued. In this connection it is safe to say that none of the inflated rumors heard in Manila are true—be they concerning $500 ore suddenly discovered in the lower levels, or be they reports that it has suddenly been proved that there is no ore whatever there."

NUEVA ECIJA PLACER.—It is understood that Messrs. Burlingame Johnson and D. M. Carman, representing American capitalists, have secured options on a large tract of placer ground in Nueva Ecija, the preliminary tests of which are reported to have run from 80 centavos to ₱1.20. Several thousand acres are included. The most of the ground has been undertaken under contract to purchase after proper tests have been made and some of it under option of working agreement with percentage of gross receipts to owners should the ground prove satisfactory. While the owners of the ground are very conservative in their estimates, it is believed that Nueva Ecija has a very bright future in placer mining. In most of the tests made a rather marked trace of platinum was found. The field is easy of access and no transportation problems. Plenty of wood and water are available and health conditions most desirable. The options run for a period of six months and an engineer will be on the ground within sixty days.

THE MANCAYAN COPPER.—After a preliminary reconnaissance in which no boring or active testing was made of this valuable copper property, the Tellus company permitted its option on the property secured from the Lepanto Company to expire last month. The interests of the Lepanto Company in the property at present consists largely of options from owners and it is believed that the Tellus people propose waiting for those options to expire so as to deal direct with the owners. It is understood, however, that the Lepanto Mining Company proposes to reorganize with a view to taking up the options and continue in control of the properties. So far as can be learned no counter proposition has been made by the Tellus company. The company's representatives are still in the Philippines and are active looking up other mining prospects. The Mancayan copper deposits are the largest known in the east and the only drawback to their development has been capital as the difficulties of transportation can only be surmounted by large investment. It is understood that several interests are desirous of opening negotiations to secure the control of the property under a development agreement.

MINING DIVISION EQUIPMENT.—The division is negotiating for the purchase of a two stamp mill, concentrating table and grinding pan for the use of the Division.

BIRKETT & HOLDEN'S REPORT.—Of the month in mining Messrs. Birkett & Holden of Manila make the following announcement:

"We understand that quietly and privately quite a lot of movement has been going on in Benguet Mining and many claims in this district have recently changed hands. In this way a fair amount of local, China coast and American capital has been introduced, but it is not until some of the Companies get busy, install machinery on their claims, and practically demonstrate the richness of their properties, that any important movement in Stocks and Shares on the open market is to be expected.

"The Bua Mine is closed down pending reconstruction of Plant rendered necessary by the typhoon and floods of last October. The May clean-up resulted in 800 ozs. of gold.

---

to Aigun, a small town on the Amur River, a few miles east of Blagovestchensk. Much of the country to be traversed is poor and subject to drought, and very little of it is under cultivation, but there are many districts along the route of great natural fertility and some with considerable mineral possibilities. From an agricultural point of view, the country west of Changchun, in the neighbourhood of Taonanfu, is the most promising, and that between Tsitsihar and Aigun is believed to be richest in minerals. There are, however, indications of very excellent coal within 100 miles of the starting point of the line at Chinchow.

CANTON-HANKOW RAILWAY REPORT.—The latest news from Peking is to the effect that the Board of Communications has memorialized the Throne about the administration of this line and has ordered Chiu Shi Chang to prepare a report for the information of the Board from the investigations made by Lung Nim Cheong.

CONNECTING THE KIANGSU RAILWAY WITH THE SHANGHAI-NANKING.—The Board of Communications has asked the Kiangsu Railway officials to consider a proposition to connect their line with the Shanghai Nanking and urged the advantages that would accrue. It was decided at a meeting of the company that a survey would be made of the route from Sungkiang to Anting with a view to securing a comprehensive idea of a line connecting by way of Chuchiako and that a report of the result be submitted to the Board.

"It is reported that the Antamok Valley Mining Co. and the Madison Mining Co. will shortly be optioned to a San Francisco development syndicate.

"The Muyot Mine has proved a rich venture and it is likely it will be in a position to install machinery before long.

"A New Company.—The Amalgamated Antamok Mining Co., Inc.—has been formed with Hongkong capital and development work will commence in October.

"The machinery for the Headwaters Mining Co. is now on the ground and construction proceeding rapidly. It is expected milling will commence in January.

"In Oil the work on the Bayhay Valley Oil Co.'s property is progressing very favorably and prospects could not be better."

Orange Blossoms.—Mr. Warren D. Smith, Chief of the Philippine Division of Mines, Bureau of Science, and Miss Phoebe Ellison were married at the Presbyterian Church, Manila, Thursday evening, July 14.

## PERSONAL AND GENERAL

Mr. James MacNider, engineer for Messrs. Westphal, King & Ramsay, Shanghai, sailed from that port on July 6 on a general buying trip in the United States, England and Europe in the interest of his firm.

Messrs. Siemens Schuckert announce that on January 1st, 1910, Mr. F. Ehrardt was appointed Commercial Manager of their China Branches with headquarters at Shanghai, and will sign for firm jointly with Mr. H. Meyer, the Technical Manager. This order was recently received from the Board of Directors at Berlin.

The engineering firm of C. G. Young, which makes a specialty of compiling reports for financing, has taken additional office space enlarging its present suite on the eighth floor of No. 60 Wall Street, to meet the increasing demands of business. This concern is engaged largely in engineering and construction, devising plans, methods and the operation of public utilities and industrial companies. Mr. Young formerly was identified with the well known firm of J. G. White & Company. Mr. Young is now in Europe on a business trip.

Mr. F. A. Molitor, formerly Supervising Railway Expert for the Philippines, has removed his offices from 79 Wall Street to No. 2 Rector Street, New York City, where he will continue the general practice of civil engineering, making a specialty of railroad work.

## PUBLICATIONS RECEIVED

*Travel and Exploration.*—Though there were few exciting incidents in Lieutenant Douglas's shooting trip in Manchuria, his descriptive gifts render his narrative in the June *Travel and Exploration* interesting and readable. Stationed with his regiment at Tien-tsin, he occupied his two months' leave in a determined but fruitless quest for the longhaired Manchurian tiger. Though from a sporting point of view his expectations were a failure, yet we get many interesting facts about a country which is almost unknown to English travellers. Mr. Douglas describes the heterodox method of catching salmon in the Manchurian rivers.

"All the Manchurian rivers are stocked in the autumn with salmon, but they will not take a fly, at least, I tried on several occasions with no success, though I could see any number of them. The Chinese catch them with a hook at the end of a long pole, building dams across the stream with only a narrow entrance for the fish to get through, and jabbing the hook into them as they pass; they then dry the fish, and keep them for food in the winter. They are excellent eating, and possess great heat producing properties."

# FAR EASTERN ENGINEERING, CONSTRUCTION, COMMERCIAL AND FINANCIAL NEWS

## ELECTRIC RAILWAYS, LIGHT, POWER, TELEGRAPHS, TELEPHONES, AEROPLANES, ETC.

Shanghai Municipal Rates for Electric Current.—The revised rates published in the Municipal Gazette, to take effect July 1st, indicate that Shanghai residents enjoy an exceeding favorable charge for electric current This has been the result of well directed effort on the part of the Council through the Electrical Department to develop a comprehensive plant that would meet the needs of the community with a view to the most economic distribution. For lighting there is the flat rate of $0.13 subject to a discount of 5% for consumption of over 1,000 units per mensem and up, to a discount of 30% for over 6,000 units per mensem. The other rate is based on Tls. 0.19 per unit for the first hour and a quarter's supply of maximum demand per diem during the month and Tls. 0.07 for all further supply. Current for power for working motors, except for elevators or lifts Tls. 0.06 per unit with a sliding scale of which the rate for over 66 units per month per h. p. installed is Tls. 0.057 per unit gradually reduced in proportion to the amount used to 652 units per month for every h. p. at Tls. 0.025 per unit. The rate for motors over 50 h. p. is Tls. 70 per annum per kilowatt of plant installed payable in twelve monthly instalments and a flat rate of Tls. 0.017 per unit for all the electricity consumed. For heating and cooking the charge is Tls. 0.035 per unit; for lifts or hoists, Tls 0.09 per unit.

Automobiles for Benguet. Mr. Warwick Greene, Director of the Bureau of Public Works, who is now in the United States, will negotiate for the purchase of 25 automobiles for use as transportation in Benguet.

Tientsin Aviation Company.—An aeroplane of the Zeppelin model is expected from Paris for this company about the end of the month.

Ackley Brake for Shanghai Tramways.—The China General Engineering Co. representing the Ackley Adjustable Brake Company has secured a large order from the Shanghai Tramways.

Yokohama Railway Extension.—The extension of the Yokohama Electric Railway Company to the Kanagawa station on the Keihin line has been sanctioned as well as the construction of the Honmoku line of the same company which will extend from Nishinohasi to Honmoku-machi.

Yokohama Electric New Power Station.—This company has established an additional station near Hokone for the distribution of current outside the city.

Electric Industry in Japan.—The development of hydro-generating plants shows an increase from 38,300 kilowatts in 1904 to 254,437 at the close of 1909 while the steam-generating plants increased from 58,220 to 185,440 in the same period.

Wireless on U. S. Army Transports.—The transports Buford, Dix and Sumner have been equipped with the De Forrest sparkless system of wireless. This system is said to be noiseless and as effective as other systems.

The Nikko Tramway.—Five miles of this line was opened to traffic last month.

Cantonese Wireless Invention.—A Chinese merchant of Canton has perfected a new wireless apparatus and several satisfactory tests have been reported. The inventor's name is Mr. Hu Yungtsao.

Philippine Aeroplane.—Mr. Ed. Martel, an automobile expert, has been experimenting with an aeroplane of his own construction, but so far has not made a successful flight. He expects to perfect it by the end of the month.

Electric Lighting Installation in Siamese Palace.—The firm of Messrs. Howarth Erskine, Ltd., has secured the contract for the installation of electric light in the palace at Petchaburi. The contract amounts to about Ticals 250,000.

Wireless in Japan.—The *Japan Times* announces that the radius of the stations established in Japan has been increased in some instances so that messages have been carried a distance of 3,130 nautical miles.

Indian Electrical Contracts.—Messrs. Stone and Co., Ltd., Electric Engineers, London, are supplying dynamos and accumulators for the electric lighting of trains to the South Indian Railway; also the Wardle Engineering Company, Limited, electric light materials and fittings; and Callender's Cable and Construction Company, Limited, electric lighting cables.

The Seoul Electric Railway Extension.—The Japan-Korea Gas & Electric Company is constructing a large electric generating station on a site of about 1,000 yards area near the gas generating plant at Yongson. The track passing round the South Gate is being doubled and a new line is to be built along the 15 kin road. In addition to this the company is preparing to installing an electric lighting system in Masan. For this purpose the company will raise a loan of 300,000 yen and make a call for yen 300,000 from the shareholders.

Electric Enterprise in Formosa.—A company with a capital of yen 1,500,000 has been organized to construct and operate an electric railway in Taipeh.

The Dairen Tramways.—The construction of the extension from Shaokangtzu in the Chinese quarter to Shahokou was begun last month and it is expected opened for traffic, December 1.

The Enoshima Electric Railway.—This company has arranged a loan of yen 275,000 at 6.5% underwritten at 98 with the Soda Bank and the Koike Company. This money will be used for the redemption of old loans.

The Shanghai Mutual Telephone Company, Ltd.—The profit for the year amounted to Tls. 65,900.04 and with the amount carried forward from last year made Tls. 68,725 available for distribution on a capital investment of Tls. 727,000. Of this amount a dividend of Tls. 4 was paid on a Tls. 50 share or at the rate of 8%. During the year considerable extension of underground cables was made and the new lamp signalling station was completed and occupied.

## DOCKS, WHARVES, PUBLIC WORKS, BUILDINGS, ETC.

The Canton Bund.—This construction has been completed from the new railway station to the wharves of the Hongkong-Canton steamer lines and large tracts of land have been filled in for building purposes. The section proposed to be built in extension of this work will be approximately 9,000 feet along the Shaki and the canal between the Shameen and the Shaki will be filled in for half its width. This work will be completed in about 18 months.

Japanese Consulate Building at Kirin.—The contract for the construction of a modern home for the consul at this point has been let to a Japanese contractor.

Miyagi Harbor Works.—After investigation, the Home Office has decided to select Shiogama from among three sites proposed for the new harbor in this prefecture and the sum of yen 3,000,000 will be made available for the work. The new harbor will be situated at the mouth of the Bay of Matsushima near Sendai.

HARBOR AT CHINCHOU.—A report from Mukden is to the effect that the Fengtien Provincial Council has passed a bill authorizing the construction of a harbor in the Bay of Lienshan south of Chinchou, the proposed terminus of the Chinchou-Aigun Railway.

CEBU WATERWORKS.—His Excellency, the Governor-General, has approved the plans submitted for the construction of the new hydraulic works for the city of Cebu and bonds to the amount of ₱250,000 will be issued in due course to cover part of the expenditure.

THE DAIREN SEWAGE SYSTEM.—A report on the progress of this project recently submitted states that the work began in 1907 and about four-fifths has been carried out. In 1908 the southwestern portion of the city was provided with connections and in 1909 the northwestern section was added. The construction is now being carried on along the wharves and the shore line of Shaokangtzu. This will leave the portion of the city back of the railway offices to be taken care of before the entire scheme as outlined will be consummated.

CHINESE NAVAL PORTS.—The inspection of Siangshan and the Fukien and Chekiang harbors chosen for naval ports, is being made by Prince Tsai Hsun.

DESTRUCTION OF SHANGHAI CITY WALL.—The Prince Regent is considering the advisability of tearing down the wall and building wide streets at the suggestion of H. E. Tso Yu Lin, vice-president of the Wai-wu-pu.

THE HUANGPU CONSERVANCY.—During the inspection trip of the Society of Engineers and Architects of Shanghai, through the courtesy of M. de Rijke in charge of Conservancy Work, it was pointed out that most of the work already done was directly a benefit to Shanghai and the river interests, but that important works not yet undertaken included the dredging of Pheasant Point Convex about a mile long, and above Black Point, 7.5 miles from the mouth, there were still about ten miles of river for which detailed plans and estimates have been made but no work started. M. de Rijke stated that some of these works were of the greatest urgency, especially the dredging of the ground mud bank above the Chinese city, says the *N. C. Daily News*.

THE YOKKAICHI HARBOR WORKS.—Referring to the fact that the foundation stone for the construction of this harbor was to be laid this month, the *Japan Mail* states that, according to the plans, a stone breakwater extending 840 yards will be constructed, enclosing a space of some 70,000 *tsubo* (250,000 yards), which is to be made 28 feet deep at the time of the lowest tide, and the passage for vessels (1,400 yards by 150 to 200 yards) is to be dredged as deep as 28 feet, thus enabling steamships of over 5,000 tons to enter and leave the harbour. Utilizing the earth to be obtained by the dredging, about 75,000 *tsubo* of the water surface will be reclaimed. At the same time a canal extending 1,910 yards and an embankment of about 1,760 yards will be constructed. The cost of construction is estimated at 1,034,600 *yen* in all, which will be disbursed in five years by means of raising a harbour-construction loan.

SUNGARI RIVER IMPROVEMENTS.—The Imperial Chinese Maritime Customs at Harbin are engaged in an extensive survey and charting of the Sungari River with a view to reducing obstacles to navigation.

THE LIAO RIVER CONSERVANCY.—In his report on this subject the British Consul at Newchwang writes:

"The provincial authorities appear at last to have recognized the vital importance to the trade of Newchwang of maintaining this great channel of commerce in a condition of navigability, and they have proposed a scheme for the conservancy of the river, which is now the subject of discussion with the representatives of the foreign Powers. In addition to the amelioration of the Upper Liao, the dredging of the bar at the entrance to the river to an uniform depth of between 23 and 24 ft. is also contemplated. To meet the cost of the scheme, which is estimated at about £100,000, it is proposed to levy a special tax on the value of the imports and exports of the port, and to increase the tonnage dues collected on shipping by 2½ candareens per ton, the Chinese Government making up any deficiency between the amount yielded by the taxes and the total expenditure. The whole work is to be carried out under the superintendence of the foreign consulting engineer to the Mukden Government. Should the proposed conservancy scheme effect all that is expected of it, there need be little apprehension regarding the future prosperity of Newchwang, for with the river in good condition the trade of the port is assured. It is hoped, too, that the deepening of the bar will enable the port to take a share in the export trade to Europe, for the harbor should be accessible then to vessels of all but the largest size."

TOKYO SEWAGE SYSTEM.—The Tokyo Council is reported to have decided to authorize a loan of yen 30,000,000 to be utilized in improving the sewage system of the capital, and to be redeemed on or before 1920. It is expected that the Imperial treasury will undertake half of this obligation and the loan will be floated in the years 1911 to 1913 in easy stages.

NEW PARK AT SEOUL.—An area of about 160,000 square yards on the southern part of the hill at Seoul commanding a fine view of Yonsan and the River Hun, has been set aside by the authorities for a public park.

REINFORCED CONSTRUCTION IN MANILA.—During the year there has been rather a building boom in Manila. Among the structures nearing completion are the Philippines General Hospital, the Army and Navy Club, the Elks Club and the new three-storey building of the United States Shoe Factory. All are being built of reinforced concrete and are very handsome buildings. The aggregate cost of construction of these four buildings reaches approximately about ₱1,500,000. In the meantime the construction work on the new hotel is under way and many smaller buildings are in the course of erection in the city. This does not include the extensive permanent building program of the Insular Government throughout the islands in the erection of public buildings of reinforced concrete. It might be said that this form of construction has practically superseded all others in permanent construction in the archipelago.

IRRIGATION IN MOROLAND.—The *Mindanao Herald* publishes an article from the pen of Mr. L. A. Henderson of the Bureau of Lands to the effect that an area of 10,050 hectares is included in irrigation schemes covering agricultural lands near Zamboanga which extends from the western boundary of San Ramon farm to the barrio of Mercedes. Mr. Henderson has been in charge of the survey and writes interestingly of the prospects of irrigation in that section. The source of supply of one scheme covering 400 hectares will be the Ayala River. A main canal about 20 meters diverts the water from the river and distributes it from a point in the wooded country about a mile above the rice paddies east to the south center and then north through the middle. It is tapped by numerous laterals and finally reaches a dead end. There is plenty of water and no dam will be necessary to maintain the supply. The above system is known as the Ayala District. Then there is the Putig district of 200 hectares, the Boalan District of 1,000 hectares, the Talabaan of 300 hectares, the Santa Maria of 300 hectares and the Tumaga, Sta. Maria, Sta. Cruz and Balete District of 200 hectares, all of which are included in the general scheme.

SINGAPORE SPORTING CLUB BUILDING.—Messrs. Howarth, Erskine, Ltd., have secured the contract for the construction of a new and commodious building for housing the club, the work to begin in October after the meeting that month. The price is $59,421.00, Straits Cur.

PEKING UNIVERSITY BUILDING.—The estimates for the construction of this building have been cut from Tls. 4,000,000 to Tls. 2,000,000 to be provided in four instalments as the work progresses. The plans have been accepted and an engineer has been employed to superintend the construction.

## SHIPBUILDING, GENERAL MARINE AND FISHERIES

NEW SHIPS FOR THE PACIFIC MAIL.—A report has been received from San Francisco to the effect that this company proposes adding two new ships of 28,000 tons each to its fleet of vessels.

JAPAN'S NAVAL PROGRAM.—The keel of one of three cruisers of 1,000 tons to be known as Chikuma, it will be remembered, was laid at Sasebo in May. Her sister ships the *Hirado* and the *Yahaga* will be built at the Mitsu Bishi Shipbuilding Dockyards and the Kawasaki Dockyards. They are expected to maintain exceptional speed and carry boilers capable of developing a h. p. of 2,500.

NEW FISHING COMPANY.—A company has been formed under the title Kankai Gyogyo Kaisha with a capital of yen 2,000,000 for the purpose of engaging in fishing on a large scale in Korean waters.

THE SHELL TRANSPORT AND TRADING COMPANY.—The directors recommended a final dividend of 2*s.* 6*d.* a share making 22.5% for the year 1909 and also propose an interim for 1910 of 1*s.* a share, tax free, payable July 5th. Out of the profits for the year, including premiums on shares issued last year, £280,000 has been placed to credit of reserve account making this account total £1,000,000, £20,000 to reserve fund which now stands at £120,000 and a balance forward of £205,868.

MOSQUITO-PROOF SHIPS.—A Liverpool firm has undertaken the contract for the construction of a number of mosquito-proof vessels for the navigable waterways in West Africa where malaria prevails.

THE SHANGHAI DOCK & ENGINEERING CO., LTD.—A final dividend of Tls. $3.50 a share, making 6% for the year, was declared at the annual meeting, July 8. This company has been very active during the last year. The General Weeks was the seventh vessel constructed for the U. S. Army at Manila; four hopper barges were recently sent to Hongkong and an order for ten cargo boats has been partly completed during the last few months.

MESSAGERIES MARITIMES.—The general meeting of shareholders of the Compagnie des Messageries Maritimes was held on May 23, in Paris, M. André Lebon presiding. The balance of receipts over expenditure in 1909 was Frs. 9,651,354, compared with Frs. 8,964,588 for 1908, and this in spite of the decrease in receipts caused by the strike, which fact makes this increase of Frs. 686,766 a cause of some satisfaction. Out of the balance mentioned a sum of Frs. 2,343,868 goes to the payment of interest on bonds.

JAPANESE EXPEDITION TO SOUTH POLE.—A report from Tokyo is to the effect that Lieutenant Shirase will leave that port on August 30, accompanied by one astronomer, one geologist and eight persons, on a deferred expedition to the South Pole. He will take a 150-ton schooner with auxiliary steam power manned by a crew of 15. Manchuria ponies are included for sled transportation. The route selected is said to be by way of King Edward the Seventh Bay.

U. S. A. STEEL SCREW TUG GENERAL WEEKS.—The General Weeks, the new steel screw tug boat built by the Shanghai Dock and Engineering Company, Ltd., of Shanghai, for the U. S. Quartermaster's Department, Manila, made her trial trip at Shanghai June 18, and developed an average of 14.9 knots and on the following Thursday in a run down the river made 15.5 knots. The vessel is one of the most handsome crafts secured by the Army. She

is schooner rigged with a length of 148.5 feet, 26 foot beam and 17 feet in moulded depth. She is built of steel and has four watertight compartments. Her machinery comprises one set of triple expansion surface condensing direct acting engines with cylinders 17.5 in., 28 in. and 46 in. diameter with 33 in. stroke designed to meet the requirements of the Board of Trade and Lloyd's for a working pressure of 180 pounds to the square inch. Two large steel cylinder multibular boilers are installed. Besides this equipment there is a duplex surface pump, fan engine, a ten inch steam driven centrifugal salvage pump, steam windlass, and dynamo with large searchlight above the wheel house. She has a bunker capacity sufficient to carry fuel without recoaling for 2,500 miles. Her engines have developed 1,232 i. h. p. although the contract called for only 1,000 i. h. p. A Hocking evaporator and condenser, capable of making 5.5 tons of fresh water daily, is installed. The vessel was built under the superintendence of Captain Parker and Mr. J. M. Robb and from designs by Captain W. H. Bertsheh, U. S. Army, and J. J. O'Donovan, M. E. M. E. and S.

DRYDOCK DEWEY FLOATED.—The drydock Dewey was successfully floated by the Naval authorities at Olongapo after two weeks of continuous work with the naval equipment of air compressors and pumps. Naval Constructor Adams and Naval Constructor Hammer were in charge. The cause of the accident has not been officially announced, but it is believed due to a defective valve The dock proper did not suffer any damage, but the electrical dynamos and appliances and other delicate machinery were practically ruined from erosion.

SHIMONOSEKI FERRY SERVICE.—The Railway Board is contemplating the purchase of modern passenger ferry-boats with accommodation for first class passengers to replace the present antiquated steamers carrying the passenger traffic to Fusan.

THE EASTERN SHIPPING COMPANY.—After writing off $90,667.49 to depreciation of Fleet and Water Boats at the rate of 8 per cent., $22,450.41 to reserve of Marine Insurance Fund at the rate of 2 per cent., the Profit and Loss Account shows a debit balance of $43,078.58. Two new steamers, the *Kedah* and the *Pangkor* were built during the year for the West Coast run and the steamer *Tong Hong* was purchased for the Rangoon run during the same period.

THE INDO-CHINA S. N. COMPANY.—The report for 1909 submitted by the directors excludes a dividend for the year after £10,000 has been transferred from the Underwriting Account; leaving a credit balance at that account of £138,100; £55,364 written off for depreciation; £4,000 writen off expenses of Debenture issue, and a balance carried forward to 1910 of £7,537.

NEW STEAMER FOR THE EASTERN & AUSTRALIAN COMPANY.—The St. Albans, a new mail steamer for this company, has been launched by Messrs. Workman, Clark & Co. of Belfast and will be added to the fleet now calling at Manila, Hongkong, Shanghai and Japan ports as well as Queensland ports, Port Darwin and Timor. The vessel is of 4,400 tons with saloon accommodation amidship and is practically a sister ship to the Empire. The vessels now on this run are the Empire, Eastern and Aldenham.

CHINESE NAVAL OFFICE.—The draft submitted for the organization of this office provides for one Prince as supervisor. The High Commissioner will be an official of senior rank and his deputy of senior second rank. There will be six directors of bureaux with senior third rank and sub-directors with junior third rank and the chief of sections senior fourth rank and the secretaries of the 1st, 2nd and 3rd class are all of junior fourth rank and the petty clerks with seventh or eighth rank. There will be no rank given to the advisers of the board. Staff officers are of substantive position.

JAPANESE NAVY PROGRAM.—The Japanese men-of-war now building are the battleships *Kawachi* and *Settsu* (20,000 tons, keels laid down), the armoured cruisers *Buki* and *Kurama* (14,620 tons, equipping) and the destroyer *Yamakaje* (1,150 tons) laid down January last. One battleship, three armoured cruisers (11,000 tons each), three second-class cruisers (5,000 tons and to be named the *Hirato*, *Yahagi* and *Chikuma*), a big destroyer (similar to the *Umikaje*, laid down in the Mitsu Bishi Dockyard, Nagasaki, in January last and to be named the *Yamakaje*) and some other small destroyers and torpedo-boats belonging to the established Japanese naval programme, are to be completed in, or before, 1916.

BANGKOK SHIPPING.—In 1908, 814 vessels of 801,264 tons engaged in the foreign trade entered the port of Bangkok as against 715 vessels of 63,621 tons in 1907. This, according to the report by Mr. Dunn, H. B. M.'s Acting Consul at Bangkok, is the highest number and tonnage recorded, the previous best year having been 1906 with 804 vessels of 746,155 tons. German shipping comes first with 379,460 tons or 47 per cent. of the whole, as against 318,542 tons, or 50 per cent., in 1907. In 1906 the German share was 56 per cent. Norwegian shipping is second with 183,552 tons, or 23 per cent., as against 166,855 tons, or 26 per cent., in 1907. British shipping takes third place with 159,195 tons, or 19 per cent., as against 94,173 tons, or nearly 15 per cent., in 1907. The increase in British shipping is due to the much large rice trade carried on with Europe in 1908. Sailing vessels were 7 in number in 1908 as against 4 in 1907.

HAMBURG-AMERICA STEAMER CHARTERED FOR CATTLE TRADE.—The Mindoro Sugar Development Company has chartered the Lydia of this company to carry carabaos from Timor to Mindoro.

PROPOSALS REJECTED.—The chief quartermaster has announced that all bids for furnishing an ocean going transport have been rejected and that plans will be made from their own designs and that proposals will soon be called for the construction of a new ship in accordance with the plans.

## MINES, MINERALS, MACHINERY AND THE METAL TRADE

OIL IN KELATIN.—OIL has been found in the districts of Lemal and Mundor, districts of Kelatin, but so far no attempt has been made towards development. The engineers of the Duff Development Company have been prospecting on portions of its mineral concession for oil deposits, but no official announcement of success has been made.

THE TONGKAH COMPOUND NO LIABILITY COMPANY.—This company was organized in Melbourne with a capital of £50,000 for the purpose of taking over the interests of the Government Concession Co. The deed of assignment was approved and mining operations must be undertaken by May 1911.

THE WAKAMATSU FOUNDRY.—This company is now equipped to turn out 160,000 tons of iron annually and it is proposed to expend the additional sum of yen 15,000,000 in bringing the capacity up to 300,000 tons annually or what is estimated as half of the domestic demand for the product.

THE FUSHUN COLLIERY.—The brisk demand for Fushun coal greatly reduced the company's surplus and the force of miners has been increased by 1,000 coolies to meet the increased demand for the product. The company expects an increase in sales to 500,000 tons annually in a few years, of which it is estimated that 300,000 tons will go to South China, 100,000 to Shangtung Province, 50,000 tons to North China and 50,000 tons to Korea.

NEW PERAK TIN FLOTATION.—The Siam-Kedah Exploration Co., Ltd., is the name of a company organized in Melbourne with a capital of £60,000 for the development of a property comprising 100 acres about six miles from Ipoh.

GOLD MINING IN SHANTUNG.—The disposition of the Shangtung provincial authorities in refusing to acknowledge prospector's rights in mineral deposits is being exposed by the action of the Governor of Shantung in not only refusing to grant a concession to a foreign capitalist interested to work them under Chinese mining laws, but proceeded to usurp the foreigner's rights by undertaking the control and operation by Chinese of the claims in question. The matter has been brought to the attention of the Wai-wu-pu. The need of liberal mining regulations in China is responsible for the backwardness of the industry. Revenues from the development of the rich deposits of the country under such encouragement as is given prospectors and capitalists in other countries would greatly relieve the financial embarrassment. The disposition, however, of the authorities is to prevent foreign enterprise in this direction regardless of the loss to the commerce of the country.

THE FURUGAWA COPPER COMPANY.—This company has started operations in the manufacture of copper wire at Nikko and half the copper from Ashio is taken to these works.

THE SIPAU TIN MINE.—The loss in the year's workings amounted to $5,706, due largely to the heavy cost of fuel for the gas suction plant. An expert has been engaged and there is promise of a saving of $10,000 in 1910. The values are in Straits Cur.

F. M. S. TIN EXPORTS.—The figures for the five months ended May 31, 1910, and of the previous year for Perak, Selangor and Negri Sembilan respectively are as follows:—

| *Tin.* *Pikuls.* | *Tin Ore.* *Pikuls.* | *Total.* *Pikuls.* | *Duty.* $ c. |
|---|---|---|---|
| 37,260.50 | 133,625.65 | 170,886.15 | 1,678,129.97 |
| 18,322.13 | 79,356.92 | 97,678.92 | 981,170.42 |
| 55.13 | 14,933.03 | 14,988.16 | 150,194.24 |

The figures for the corresponding period of 1909 were:—

| *Tin.* *Pikuls.* | *Tin Ore.* *Pikuls.* | *Total.* *Pikuls.* | *Duty.* $ c. |
|---|---|---|---|
| 38,830.30 | 135,191.90 | 174,022.20 | 1,488,590.52 |
| 15,678.56 | 85,419.96 | 101,098.52 | 864,411.64 |
| 3,419.64 | 15,627.62 | 19,047.26 | 162,207.19 |

THE TRONOH TIN MINES.—This company sold 2,158 tons of tin ore during the year 1909 compared with 1,712 tons for the previous term showing a profit of £64,991.

THE KINTA MINES.—This company has declared a further dividend of one shilling a share.

THE RAUB GOLD OUTPUT.—For the four weeks ending June 22, the output amounted to 1,465 ounces.

STRAITS TRADING COMPANY.—After writing off depreciation and making provision for bad and doubtful debts the net profits amount to $519,370.33 which, with the balance of $93,237.60 brought forward from last account, makes a total of $612,607.93 available at 31st March, 1910.

The Directors recommend:—That a dividend of $1, and a bonus of 50 cents per share be paid to shareholders, absorbing $450,000. That $50,000 be added to the Reserve Fund which will then stand at $1,400,000. That $25,000 be transferred to Employees' Bonus Account. That the balance of $87,607.93 be carried forward to a new account.

FORMOSA'S GOLD OUTPUT.—The output of gold in Formosa is yearly increasing, the average annual output amounting to a little over -Y-2,000,000 in value, says the *Mining Journal*. The appended table shows the estimates of output from the following three mines for the 43rd (1909-10) and 44th (1910-11) fiscal years:—

| | 1909-10 *Yen.* | 1910-11 *Yen.* |
|---|---|---|
| Kinkazan.............. | 1,800,000 | 2,000,000 |
| Zuiho.............. | 330,000 | 320,000 |
| Botan.............. | 250,000 | 330,000 |
| Total.............. | 2,380,000 | 2,650,000 |

1 yen = 2*s*. 0. 58*d*.

DUTCH OIL COMPANY'S PROSPERITY.—The Koninklyke Nederlandsche Maatschappy tot Exploitatie van Petroleum Bronnen in Ned. India, says the *Mining Journal*, will propose a dividend for the year just completed of 28 per cent., being the same as that paid for the year 1908.

RUSSIAN MINING RIGHTS IN MANCHURIA.—According to the Chino-Russian treaty the China Eastern Railway Company can engage in mining operations within 30 *li* of its railway line. Some time ago the Company commenced working a coal mine 6 *li* from Manchu, but operations were forbidden by the Chinese local officials. The question has now become a subject of negotiation between both Governments, and the Peking Government has instructed the Manchurian Viceroy to investigate the matter. A number of mines are being worked by Russians at places in the Amur province near the boundaries, without the consent of the Chinese Government. The latter has requested the Russians to surrender these mines. This the Russians refuse to do unless the Chinese Government pays them proper compensation. The question is still unsolved.

THE TAINAN IRON WORKS.—The project for the establishment of this plant has been revived by the promoters who now propose the investment of yen 500,000 for the purpose instead of yen 1,000,000 as was originally proposed. The machinery is said to have been ordered from the Hiranuma Works.

## FINANCIAL, COMMERCIAL AND MISCELLANEOUS

DAIREN COTTON BLEACHING COMPANY.—A project is on foot, according to the *Manchurian Daily News*, to establish a cotton bleaching plant at this point with a capital of yen 500,000.

STRAITS SETTLEMENTS TRADE.—The quarter ended March 31st showed that the total value of imports for Singapore was $60,150,556, as against $50,645,941 in the corresponding period last year; for Penang $17,964,206, as against $19,553,048, for Malacca $1,343,769, as against $995,326, total $79,458,531 equal to £9,270,162, as against $71,194,315 equal to £8,306,003, this being an increase of £964,159. The exports for the same period for Singapore were $49,351,273, as against $43,469,803 in the corresponding quarter last year; for Penang $19,798,835 as against $19,563,646, for Malacca $1,408,149, as against $976,900, total $70,558,257 equal to £8,231,796, as against $64,010,349, equal to £7,467,874.

TRADE AT CHANGCHUN.—Of the estimated crop of 220,000 tons of beans but 150,000 tons have been shipped south from Changchun this season up to this time. The crop of wheat is bringing double prices this year and other cereals, including hempseed, also timber, are reported coming through from Harbin in large quantities.

BRITISH-JAPANESE TRADE.—The exports from Japan to Britain in 1899 amounted to yen 11,000,000 and yen 25,000,000 in 1908. Most of these exports included raw material in many forms. In 1899 the imports from Great Britain amounted to yen 45,000,000 and yen 106,000,000 in 1908. These imports comprise manufactured articles.

LARGE RUBBER DIVIDENDS.—The *Pinang Gazette* offers the following table showing the dividends declared by the leading rubber companies for 1909:

| | 1907 *per cent.* | 1908 *per cent.* | 1909 *per cent.* |
|---|---|---|---|
| Selangor | 41½ | 75 | 287½ |
| Linggi | 20 | 60 | 165 |
| Pataling | 25 | 43 | 125 |
| Con. Malay | 10 | 17½ | 80 |
| Anglo-Malay | 20 | 30 | 80 |
| Batu Caves | — | 10 | 50 |
| Damansara | 3 | 12 | 50 |
| Klanang | 12½ | 15 | 45 |
| Highlands | 12½ | 15 | 35 |
| Sungei Kapar | — | — | 32½ |
| Golden Hope | 6 | 8 | 30 |
| Ceylon Tea Plantations | 15 | 20 | 30 |
| Golconda | — | — | 25 |
| Labu | — | 7 | 25 |
| Harpenden | — | — | 20 |

Among the companies which will be heavy dividend payers on the past year but whose reports have not been issued are the Vallambrosa, Bukit Rajah, Cicely, Kuala Lumpur, Perak, Fed. Selangor, Lanadron, and Malacca companies. Some of these have declared interim dividends in excess of the total distribution for 1908.

VISIT OF AMERICAN BUSINESSMEN TO CHINA.—The following is the itinerary of the visitors from the Pacific Slope as arranged at present:

September 20..... Arrive Shanghai.
Remain in Shanghai, five days.
September 25..... Arrive Nanking.
Remain three days.
October 1........ Arrive Hankow.
Remain three days.
October 6........ Arrive Peking.
Remain four days.
October 10....... Arrive Tientsin.
Remain two days.
October 14....... Arrive Chefoo.
October 17....... Arrive Foochow.
October 19....... Arrive Amoy.
October 20....... Arrive Canton.
Remain four days, and then party disperse.

RUSSO-JAPANESE TRADE.—The total volume of trade between the two countries during the year 1908 amounted to 6,700,000 roubles, of which 5,700,000 roubles represented the amount of exports from Japan to Russia. The export of oil from Russia which aggregated in value in 1903 to 4,500,000 roubles amounted only to 200,000 roubles in 1908. American and Sumatra oils have practically ousted Russian oil from the Japanese market.

RUSSO-CHINESE BANK DIVIDENDS.--The Board of Directors at St. Petersburg has announced a dividend of 9.375 roubles, a rouble share and Tls. 6.25 per Shanghai Tael share for the year 1909.

FORMOSA CAMPHOR EXPORT.—The total export from Formosa for 1909 was 4,400,000 pounds, of which 1,300,000 went to London and 2,700,000 went to America while 260,000 went to India. During the months of May and April this year the monthly output was 500,000 kin (1.321 lbs.), an unprecedented record in production.

NEW CHINESE BUREAU OF ENGRAVING.—The Bureau of Engraving has been busily engaged in preparing the dies for the new coins and it was recently reported from Peking that a tentative set is now ready while all the d es will be finished by October this year.

PROVINCIAL COMMISSIONERS OF FOREIGN AFFAIRS.—The following appointments have been made in the different provinces: H. E. Tsai Shao Chi (Present Tientsin Customs Taotai) for the Province of Chihli; H. E. Tsai Nai-huang (Present Customs Taotai of Shanghai) for the Province of Kiangsu; H. E. Wei-han (Managing-Director of Canton-Kowloon Railway) for the Province of Kuangtung, and H. E. Shih Shao-Chi (Nominated Customs Taotai at Harbin in 1908) for the Province of Hupeh. A Decree will be issued for the information of the public at the beginning of next month.

CHINESE CUSTOMS REPORT.—The report for the first quarter 1910 shows a marked increase of duties and dues collected at the different ports according to the *Customs' Gazette*. The total of import duties and dues for the quarter amounted to H. Tls. 2,818,276 against H. Tls. 2,485,266 for the corresponding period 1908 and the export duty amounted to H. Tls. 2,324,186 against H. Tls. 2,324,186. The coast trade duties amounted to H. Tls. 461,484 against H. Tls. 354,669 for 1908. Other dues and opium duty showed a similar increase. The total revenue for the quarter from all these sources amounted to Tls. 8,127,519.405 against 7,062,970.761 during the corresponding period 1908.

FORMOSAN SUGAR CROP.—The total estimated crop for this season will reach 3,000,000 piculs of which 1,800,000 piculs of refined sugar.

MAY RUBBER RETURNS IN F. M. S.—The total output for May amounted to 440,000 pounds of rubber approximately, a slight increase over April's report.

## JAPANESE EMIGRATION TO BRAZIL

The inducements offered Japanese laborers in Brazilis the subject of much comment in the Japanese press. The Brazilian government is anxious to secure laborers and makes a grant of 80 *yen* to every immigrant over 12 years of age; 40 *yen* to every immigrant from 7 to 12 years of age, and 20 *yen* to those above 3 and less than 7. Further, the immigrant has to undertake a liability of from 3.50 to 15.00 *yen vis a vis* his employer, but this money may be paid back in small installments spread over a long interval. As for the earnings of an immigrant, he gets the equivalent of 56 *sen* for one bag of coffee beans, and he can gather 3 bags a day, if he is industrious.

It is understood that arrangements are being made by the Oriental Colonization Company to further emigration to South America and that several colonies of laborers will leave for Brazil in the early fall.

## *LONDON, ENGLAND, METAL MARKET

The following are to-night's (Friday, June 3) prices of metals:—

| COPPER. | £ | s. | d. | | £ | s. | d |
|---|---|---|---|---|---|---|---|
| *Tough cake and Ingot | 60 | 10 | 0 | .. | 61 | 0 | 0 |
| *Best Selected | 60 | 10 | 0 | .. | 61 | 0 | 0 |
| *Electrolytic | 61 | 5 | 0 | .. | 61 | 10 | 0 |
| *Sheets and sheathing | 70 | 0 | 0 | .. | — | | |
| *Flat bottoms | 73 | 0 | 0 | .. | — | | |
| STANDARD †Cash | 56 | 11 | 3 | .. | 56 | 13 | 9 |
| STANDARD †Three Months | 57 | 6 | 3 | .. | 57 | 8 | 9 |
| *Copper tubes, seamless per lb. | 0 | 0 | 8½ | .. | — | | |
| *Lake | 62 | 10 | 0 | .. | 63 | 0 | 0 |

* Less 3½ per cent. † Net.

| ALLOYS. | | | | | |
|---|---|---|---|---|---|
| BRASS: Wire | 0 | 0 | 6⅝ | .. | — |
| ,, Tubes (solid drawn) | 0 | 0 | 7 | .. | — |
| ,, Sheets | 0 | 0 | 6⅛ | .. | — |

| TIN. | | | | | | | |
|---|---|---|---|---|---|---|---|
| English ingots, f. o. b. | 147 | 10 | 0 | .. | 148 | 10 | 0 |
| ,, bars | 148 | 10 | 0 | .. | 149 | 10 | 0 |
| ,, refined | 149 | 10 | 0 | .. | 150 | 10 | 0 |
| Straits... Cash | 149 | 7 | 6 | .. | 149 | 12 | 6 |
| Straits... Three months | 150 | 5 | 0 | .. | 150 | 10 | 0 |
| Australian spot | — | | | .. | — | | |
| Banka (in Holland) Cash | 149 | 5 | 0 | .. | — | | |
| Banka (in Holland) Three months | 149 | 16 | 3 | .. | — | | |

| LEAD. | | | | | | | |
|---|---|---|---|---|---|---|---|
| Spanish or soft foreign | 12 | 11 | 3 | .. | 12 | 12 | 6 |
| English pig, common | 12 | 15 | 0 | .. | 12 | 17 | 6 |
| ,, L. B | 13 | 2 | 6 | .. | — | | |
| ,, sheet and bar lead | 14 | 5 | 0 | .. | — | | |
| ,, pipe | 14 | 15 | 0 | .. | — | | |
| ,, red | 15 | 5 | 0 | .. | — | | |
| ,, white | 17 | 10 | 0 | .. | — | | |
| ,, patent shot | 15 | 15 | 0 | .. | — | | |

| SPELTER. | | | | | | | |
|---|---|---|---|---|---|---|---|
| Silesian ordinary brands | 22 | 0 | 0 | .. | 22 | 5 | 0 |
| ,, special brands | 23 | 0 | 0 | .. | 23 | 5 | 0 |
| English Swansea | 22 | 15 | 0 | .. | 23 | 5 | 0 |
| Sheet zinc | 25 | 5 | 0 | .. | — | | |

| ANTIMONY. | | | | | | | |
|---|---|---|---|---|---|---|---|
| Antimony | 27 | 0 | 0 | .. | 29 | 0 | 0 |
| ,, Crude | 12 | 10 | 0 | .. | 13 | 10 | 0 |
| ,, Ore (basis 50%) | 8 | 0 | 0 | .. | 10 | 0 | 0 |

| QUICKSILVER. | | | | | |
|---|---|---|---|---|---|
| Flasks, 75 lbs. warrants | 8 | 15 | 0 | .. | — |

| ALUMINIUM. | Per ton. | | | | Per ton. | | |
|---|---|---|---|---|---|---|---|
| 98-99 per cent | 72 | 10 | 0 | .. | 75 | 10 | 0 |

| NICKEL. | Per ton. | | | | Per ton. | | |
|---|---|---|---|---|---|---|---|
| 98-99 per cent. guaranteed | 167 | 10 | 0 | .. | 171 | 0 | 0 |

PLATINUM.

Per oz. Troy, 123s.; 6d.: nominal and subject to negotiation.

*Mining Journal.

# FAR EASTERN STOCKS AND QUOTATIONS

*Courtesy of Messrs. Kadoorie & Co., Hongkong, July 8, 1910.*

| STOCK. | WHEN ESTABLISHED | CAPITAL | NO. OF SHARES | VALUE | PAID UP | RESERVE | AT WORKING ACCOUNT | DATE | LAST DIVIDEND. | Approximate Yield per cent per annum at Present Quotation | CLOSING QUOTATIONS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **BANKS.** | | | | | | | | | | | |
| Hongkong & Shanghai Banking Corporation | 1865 | $15,000,000 | 120,000 | $125 | $125 | g £1,500,000<br>e $15,500,000<br>i $250,000 | $2,028,988 | 31-12-09 | £2. 5/- for half year ending 31-12-09, @ ex 1/9¼ = $25.11 | 4½ | 950 buyers<br>£89 10s. |
| National Bank of China, Ld. | 1891 | £699,475 | 10) 99,925 | £7 | £6 | c £4,099<br>$400,000 | $34,167 | 31-12-09 | $2 (London 3/6) for 1903 | --- | $76 buyers |
| **MARINE INSURANCES.** | | | | | | | | | | | |
| Canton Insurance Office, Ld. | 1881 | $2,500,000 | 10,000 | $250 | $50 | $1,560,000<br>j $254,583<br>u $302,799 | Nil. | 31-12-08 | $10 for 1908 | 6% | $175 sellers |
| North China Insurance Co., Ld. | 1903 | £150,000 | 10,000 | £15 | £5 | g £125,000<br>e Tls. 225,000<br>u Tls. 335,253<br>f Tls. 146,586 | Tls. 207,572 | 30-6-09 | Final of 7/6 making 15/- for 1908. | 5% | Tls. 115 |
| Union Ins. Society of Canton, Ld. | 1867 | $3,100,000 | 12,400 | $250 | $100 | e $3,000,000<br>g £90,000<br>f $287,984<br>j £1,449,735<br>u $713,985 | $287,984 | 31-12-09 | Final of $20 per share, making in all $50 per share for 1908, and an int. div. of $30 per share for 1909 | 6a | $820 sales |
| Yangtsze Ins. Association, Ld. | 1889 | $1,200,000 | 12,000 | $100 | $60 | $1,000,000<br>j $294,405<br>$199,234 | $707,637 | 31-12-08 | $12 for year ending 31-12-08 and interim of $3 on account of 1909 | 7 | $200 buyers |
| **FIRE INSURANCES.** | | | | | | | | | | | |
| China Fire Ins. Co., Ld. | 1870 | $2,000,000 | 20,000 | $100 | $20 | $1,000,000<br>x $550,348<br>f $61,168 | $438,406 | 31-12-09 | $6 and bonus $2 for 1908 | 7% | $113 sales |
| Hongkong Fire Ins. Co., Ld. | 1868 | $2,000,000 | 8,000 | $250 | $50 | $1,460,000 | $426,218 | 31-12-09 | $27 for 1908 | 8% | $355 buyers |
| **SHIPPING.** | | | | | | | | | | | |
| China & Manila Steamship Co., Ld. | 1882 | $750,000 | 1) 30,000 | $25 | $25 | i $57,734 | Dr $3,777 | 31-12-09 | $4% for 1906 | .... | $7 sellers |
| Douglas Steamship Co., Ld. | 1883 | $1,000,000 | 20,000 | $50 | $50 | $230,000<br>i $100,589 | Nil. | 30-6-09 | $2½ for year ending 30-6-1908 | .... | $30 sellers |
| Hongkong, Canton & Macao Steamboat Co., Ld. | 1865 | $1,200,000 | 80,000 | $15 | $15 | e $250,000<br>d. i. $627,500<br>f $103,545<br>$ 19,106 | $20,766 | 31-12-09 | Final of $1½ for 1909 | 8% | $33 sellers |
| Indo-China Steam Navigation Co., Ld. (Preferred)<br>Do. Do. (Deferred) | 1882 | m £600,000 | 2) 60,000<br>2) 60,000 | £5 | £5 | i £148,891 | £15,162 | 31-12-08 | 6/- for 1907 on pref. share only at ex. 1/9 11/16, $3.154 | .... | $65 |
| "Shell" Transport & Trading Co., Ld. | 1898 | £ 2,000,000 | 2,000,000 | £1 | £1 | £720,000<br>i £100,000 | £192,994 | 31-12-08 | 3rd interim of 2/- per share (coupon No. 12) making in all 4/- for 1908, and interim of 1/- for account 1909 | 5% | 99/- ex. div.<br>£11 buyers |
| "Star" Ferry Co., Ld. | 1898<br>1900 | $200,000 | 10,000<br>10,000 | $10<br>$10 | $10<br>$5 | $71,850<br>i $62,681 | $1,159 | 30-4-10 | A dividend of 7% and bonus of 5% making 12% for year ending 30.4.1901 | 5<br>4½ | $24½ sales<br>$14 |
| **REFINERIES.** | | | | | | | | | | | |
| China Sugar Refining Co., Ld. | 1878 | $2,000,000 | 20,000 | $100 | $100 | e $520,000<br>r $83,620 | Dr. $8,090 | 31-12-09 | $10 per share for 1909 | 5¾% | $168 buyers |
| Luzon Sugar Refining Co., Ld. | 1882 | $700,000 | 7,000 | $100 | $100 | none | Dr. $101,851 | 31-12-09 | $3 for 1897 | --- | $28 sellers |
| Perak Sugar Cultivation Co., Ld. | --- | Tls. 350,000 | 7,000 | Tls. 50 | Tls. 50 | Tls. 100,000 | Tls. 6,302 | 31-8-09 | Tls. 10 for year ending 31-8-09 | .... | Tls. 800 buyers |
| **MINING.** | | | | | | | | | | | |
| Chinese Engineering & Mining Co., Ld. | 1901 | £1,000,000 | 1,000,000 | £1 | £1 | d £215,000<br>h £84,390 | £1,435 | 28-2-09 | Final of 1/6 making 3/- for 09 | 9% | Tls. 16 |
| Headwaters Mining Co. | 1908 | ₱600,000 | 28) 600,000 | ₱10 | ₱10 | | | | First year | | ₱10 buyers |
| Raub Australian Gold Mining Co., Ld | 1892 | £200,000 | 150,000<br>50,000 | £1<br>£1 | 18-10<br>£1 | £4,873 | Dr. .... | .. | 1/2 per share, 13th div. | 5% | $7½ sellers |
| Oriental Consolidated Mining Co. Ld. | .... | g $5,000,000 | 500,000 | g $10 | $10 | none | .... | .. | Final of gold $0.65 for 1909 in all g $15 | .. | 41/- |
| **DOCKS, WHARVES AND GODOWNS.** | | | | | | | | | | | |
| Fenwick (Geo.), & Co., Ld. | 1889 | $450,000 | s 18,000 | $25 | $25 | $25,275 | Dr $8,460 | 31-12-09 | $1½ for year ending 31-12-06 | .... | $10 |
| Hongkong & Kowloon Wharf & Godown Co., Ld. | 1886 | $3,000,000 | 60,000 | $50 | $50 | $550,000<br>t $31,993<br>s $40,000 | $264,847 | 31-12-09 | $2½ for 1909 | 4½% | $56 sellers |
| Hongkong & Whampoa Dock Co., Ld. | 1866 | $2,500,000 | 50,000 | $50 | $50 | i $88,412<br>v $221,000 | $132,765 | 31-12-09 | Interim of $1½ for account 1909 | .. | $50 buyers |
| Shanghai Dock & Engin'g Co., Ld. | 1906 | Tls. 5,570,000 | 13) 55,700 | Tls. 100 | Tls. 100 | Tls. 1,000,000 | Tls. 6,261 | 30-4-09 | Interim of Tls. 2½ for account 1910 | 6½ | Tls. 79 buyers |
| Shanghai & Hongkew Wharf Co., Ld. | 1902 | Tls. 3,600,000 | 36,000 | Tls. 100 | Tls. 100 | b Tls. 697,257<br>r Tls. 70,000<br>e Tls. 125,000 | Tls. 9,222 | 31-12-09 | Final of Tls. 4 for 1909 | 7 | Tls. 120 |
| **LANDS, HOTELS AND BUILDINGS.** | | | | | | | | | | | |
| Anglo-French Land Investment Co., Ld. | 1906 | Tls. 2,500,000 | 3) 25,000 | Tls. 100 | Tls. 100 | Tls. 35,000 | Tls. 4,314 | 29-2-09 | Tls. 6 for year ending 29-2-09 | 5½ | Tls. 104 |
| Central Stores, Ld. | --- | $751,845 | 16) 50,123 | $15 | $15 | n. $1,000 | $24,641 | 31-12-08 | 8% for 1909 | --- | $16 buyers |
| Hongkong Hotel Co., Ld. | 1866 | $600,000<br>$400,000 | 12,000<br>8,000 | $50<br>$50 | $50<br>$25 | $648,975<br>r $10,000 | $1,277 | 31-12-09 | $2.60 on old shares, $1.30 on new shares, for ½ year ending 31-12-09 | --- | $107 sellers<br>$83 sellers |
| Hongkong Land Investment & Agency Co., Ld. | 1889 | $5,000,000 | 50,000 | $100 | $100 | e $250,000 | $27,971 | 31-12-09 | Final of $3½ making $7 for year ending 31-12-1909 | 6½ | $100 sellers |
| Humphreys' Estate & Finance Co., Ld. | 1887 | $1,500,000 | 150,000 | $10 | $10 | i $226,945<br>20) $25,856 | $5,471 | 31-12-09 | 45 cents for 1909 | 5¾% | $8½ sellers |
| Kowloon Land & Bldg. Co., Ld. | 1889 | $300,000 | 6,000 | $50 | $30 | none | $269 | 31-12-09 | $2½ for 1909 | 8½% | $32 buyers |
| Shanghai Land Investment Co., Ld. | 1888 | Tls. 3,900,000 | 78,000 | Tls. 50 | Tls. 50 | Tls. 1,523,045<br>e Tls. 300,000 | Tls. 63,969 | 31-12-09 | Final of Tls. 4 making Tls. 7 for 1909 | 6¾ | Tls. 109 |
| West Point Bldg. Co., Ld. | 1889 | $625,000 | 12,500 | $50 | $50 | none | $1,958 | 31-10-09 | Final of $1.80 for 1909 making in all 3.80 per share for 09 | 8¾ | $38 buyers |
| **COTTON MILLS.** | | | | | | | | | | | |
| Ewo Cotton Spinning & Weaving Co., Ld. | 1895 | Tls. 1,000,000 | 5) 20,000 | Tls. 50 | Tls. 50 | Tls. 250,000<br>Tls. 40,098 | Tls. 10,991 | 31-10-09 | Tls. 11 for year ended 31-10-09 | 8½ | Tls. 122 |
| Hongkong Cotton Spinning, Weaving & Dyeing Co., Ld. | 1901 | $1,250,000 | 125,000 | $10 | $10 | e $20,000 | $26,297 | 30-7-09 | 50 cents for year ending 31-7-08 | 8% | $6 sellers |

## FAR EASTERN STOCKS AND QUOTATIONS—(Continued.)

| STOCK. | WHEN ESTABLISHED | CAPITAL. | NO. OF SHARES. | VALUE. | PAID UP. | RESERVE | AT WORKING ACCOUNT. | DATE. | LAST DIVIDEND. | Approximate Yield per cent. per annum at Present Quotation. | CLOSING QUOTATIONS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| International Cotton Manufacturing Co., Ld. | 1895 | Tls. 750,000 | 6) 10,000 | Tls. 75 | Tls. 75 | Tls. 175,000 | Tls. 8,372 | 30-9-09 | Tls. 7½ for year ending 30-9-09 | 12% | Tls. 56 buyers |
| Laou-kung-mow Cotton Spinning & Weaving Co., Ld. | 1895 | Tls. 800,000 | 8,000 | Tls. 100 | Tls. 100 | none | Tls. 4,829 | 31-12-08 | Tls. 6 for 1909 | % | Tls. 70 nominal |
| Soy Chee Cotton Spinning Co., Ld | 1895 | Tls. 1,000,000 | 2,000 | Tls. 500 | Tls 500 | Tls. 31,172 | Tls. 31,173 | | Tls. 25 for 1909 | 10% | Tls. 240 sales |
| **MISCELLANEOUS.** | | | | | | | | | | | |
| Bell's Asbestos Eastern Agency, Ld. | 1895 | £5,377.10s. | 11) 8,604 | 12/6 | 12/6 | £1,500 | £682 | 31-12-08 | 15% for 1908 | | $9 sellers |
| China-Borneo Co., Ld. | 1903 | $720,000 | 8) 60,000 | $12 | $12 | $40,000 | Nil. | 31-12-08 | 5% for 1909 | 6% | $½ |
| China Light & Power Co., Ld.<br>Do. do. Special Shares | 1901<br>1907 | $300,000 | 50,000<br>17) 50,000 | $5<br>$1 | $5<br>$1 | none | $46,483 | 31-7-09 | 60 cents for year ending 28-2-06 | | $1½ sellers |
| China Provident Loan & Mortgage Co., Ld. | 1898 *a* | $1,250,000 | 7) 125,000 | $10 | $10 | $100,000 | $2,602 | 31-12-09 | 80 cents for 1909 | 9% | $8½ sellers |
| Dairy Farm Co., Ld. | 1896 | $300,000 | 40,000 | $7½ | $6 | *l* $10,000<br>$10,000 | $1,850 | 31-7-09 | $1.20 for year ending 31-7-09 | 6½% | $19 buyers |
| Green Island Cement Co., Ld. | 1897 | $4,000,000 | 400,000 | $10 | $10 | $14,000 | $4,290 | 31-12-09 | Final of 40 cts. making in all 75 cts. per share for 1909 | 10 | $6½ |
| H. Price & Co., Ld. | 1907 | $120,000 | 19) 15,000 | $10 | $10 | none | $1,923.87 | 31-12-09 | 14% viz $1.40 for 1909 | 12% | 12% |
| Hongkong Electric Co., Ld. | 1889 | $600,000 | 60,000 | $10 | $10 | none | $11,798 | 28-2-10 | A dividend of $1.20 per share and a bonus of 10 cents | 6 | 19½ |
| Hongkong Ice Co., Ld. | 1881 | $125,000 | 5,000 | $25 | $25 | *k* $150,000 | $12,662 | 31-12-09 | Final of $8 per share making in all $10 1909 | 6 | $155 sellers |
| Hongkong Rope Manufacturing Co., Ld. | 1883 | $600,000 | $60,000 | $10 | $10 | $40,000 | $9,176 | 31-12-09 | Final of $1 making in all $2 for 1909 | 9 | $20 |
| Maatschappij tot Mijn-, Bosch- en Landbouwexploitatie in Langkat | 1902 | Gs. 2,500,000 | 25,000 | Glds. 100 | Glds. 100 | Tls. 547,500<br>*f* Tls. 63,914<br>21 Tls. 547,500 | Tls. 316,682 | 31-10-08 | Interim of Tls. 25 for 1910 | 5 | Tls. 1350 |
| Peak Tramways Co., Ld.<br>Do. (New) | 1907 | $750,000 | 25,000<br>50,000 | $10<br>$10 | $10<br>$1 | $20,000 | $3,014 | 30-4-10 | 80 cents on fully paid shares & 8 cents on $1 paid shares for year ending 30-4-10 | 5¼<br>5 | $14 sellers<br>$1½ buyers |
| Philippine Co., Ld. | 1904 | $750,000 | 75,000 | $10 | $10 | none | Ps. 18,640 | 31-12-08 | None | .... | $10 buyers |
| Robinson Piano Co., Ltd. | 1900 | $200,000 | 22) 4,000 | $50 | $50 | $5,000 | $61,138 | 31-8-08 | 6% for ½ year ending 30.9.07 | .... | $50 sellers |
| Shanghai-Sumatra Tobacco Co., Ld. | 1902 | Tls. 600,000 | 9) 30,000 | Tls. 20 | Tls. 20 | Tls. 24,820<br>*w* Tls. 75,000 | Tls. 5,250 | 31-10-08 | Final of Tls. 5 making Tls. 8 for 1908 | 2 | Tls. 240 sellers |
| | | | | | | | *Dr.* $31,096 | 31-8-09 | None | .... | $26 |
| South China Morning Post, Ld. | 1903 | $150,000 | 6,000 | $25 | $25 | none | $127,86 | 31-5-09 | 50 cents for year ending 30-5-10 | 8 | $5½ buyers |
| Steam Laundry Co., Ld. | 1902 | $100,000 | 20,000 | $5 | $5 | none | | | | | |
| Union Waterboat Co., Ltd. | 1905 | $500,000 | 15) 50,000 | $10 | $10 | *w* $11,956 | .. | 31-12-08 | 60 cents for year-end. 31-12-1908. | 6½ | $7 |
| United Asbestos Oriental Agency, Ld. | 1896 | $100,000 | 10,000 | $10 | $4 | $46,000 | $342 | 31-5-09 | 60 cents per ordinary share for year ending 31-5-09 | 5 | $11½ sellers |
| Watkins, Ltd. | 1899 | $100,000 | 10,000 | $10 | | none | $19,41 | 31-12-09 | 3½ for 1909 | 11% | $3 sellers |
| | | | | | | | | 31-12-09 | 3% for 1909 | .... | $6½ sellers |
| Watson (A. S.) & Co., Ld. | 1886 | $900,000 | 90,000 | $10 | $10<br>$10 | $300,000<br>*e*) $25,000 | $1,776 | 31-7-09 | 10 per cent for year endg. 31.7.08. | 10% | $10 buyers |
| Weismann Limited | 1904 | $30,000 | 3,000 | $10 | $10 | $12,250 | $67 | | | | |
| William Powell, Ld. | 1901 | $105,000 | 15,000 | $7 | $7 | none | $782 | 30-6-09 | Final of 30 cents making 80 cents year ending June 30th 1906 | .... | $3 sellers |
| Societe des Pulpes et Papeteries du Tonkin | | 660,000 | 13,200 | 50 | 25 | .... | .. | .... | First year | .... | $33 sales (Hk.C.) |
| **RUBBERS** | | | | | | | | | | | |
| Allagar Rubber Estates, Ltd. | 1909 | £85,000 | 29) 750,000 | 2/- | 2/- | .... | .... | .... | ........ | .... | 7/6 |
| Anglo-Malay Rubber Co., Ltd. | 1905 | £150,000 | 1,500,000 | 2/- | 2/- | .... | .... | .... | 80% for year ending 31.12.09 | .... | 28/9 |
| Balgownie Rubber Estate, Ltd. | 1905 †† | $200,000 | ‡‡ 20,000 | †† $1 | †† $1 | $7,400 | $11,205 | 31-3-09 | 100% for year ending 31.3.10 | .... | $23 [Singapore] |
| Castlefield Rub. Ld., [fully pd.] | 1906 | £35,000 | 27) 32,650 | £1 | £1 | none | .... | | ........ | .... | 125/- |
| Damansara (Selangor) Rub. Co. | 1906 | £110,000 | 25 110,000 | £1 | £1 | nil. | £2,220 | 31-12-08 | 50% for 1909 | .... | 172/6 |
| Golconda Malay Rubber Co. | 1907 | £80,000 | 26 80,000 | £1 | £1 | nil. | nil. | --- | ........ | .... | 132/6 |
| Highland & Lnd. Para R. Co.<br>Do. Do. [fully paid]<br>Do. Do. [partly paid] | 1906 | £310,000 | =181,454<br>123,546 | £1<br>£1 | £1<br>15/- | £87,84 | .... | .... | 15% for 1909 (interim) | .... | 137/6 |
| Kamuning (Perak) Rb. & Tin Co.<br>do do A Shares<br>do do B Shares | 1909 | £200,000 | 950,000<br>105,000 | 2/-<br>£1 | 1/-<br>£1 | nil.<br>£4,000 | nil.<br>1,82 | ....<br>.... | ........<br>6/-for 1909 | .... | 8/3 prem.<br>202/6 |
| Kuala Lumpur Rubber Co., Ltd. | 1906 | £180,000 | 180,000 | £1 | £1 | | .... | .... | 165% for 1909 | .... | 62/- |
| Linggi Plantations, Ltd. (ord.)<br>Do. Do. (7% pref.) | 1895 Reconst | £100,000 | ×900,000<br>10,000 | 2/-<br>£1 | 2/-<br>£1 | .... | .... | .... | ........ | .... | Nominal |
| Ledbury Rubber Estates Ltd.<br>Do. Do. (contrib.) | 1908 | £125,000 | §§ 60,000<br>§§ 40,000 | £1<br>£1 | £1<br>7/6 | .... | .... | .... | ........ | .... | 90/- |
| Sagga Rubber Co. Ld. | 1903 | £20,000 | 24) 2,000 | £1 | £1 | nil. | nil. | | | | |
| Sandycroft Rubber Co. | 1904 | $100,000 | 50,000 | $2 | $2 | $20,000 | $1,275 | 31.1.08 | 150% for year ending 31.1.10 | .... | 310/-<br>$40 |
| Sekong Rubber Co., Ld. | 1908 | £80,000 | 27) 80,000 | £1 | 12/6 | nil. | nil. | --- | ........ | .... | 37/6 prem. |
| Shelford Rubber State Ld. | 1906 | £65,000 | 65,000 | £1 | £1 | nil. | £836 | 31.12.08 | 7½% for 1909 | .... | 77/6 |
| Singapore & Johore Rb. Co., Ld. | 1903 | $250,000 | 2,500 | £2 | $2 | nil. | nil. | --- | 20% for year ending 31.12.09 | .... | $19 |
| Sungei Choh. Rb. State Co., Ld. | 1907 | £45,000 | 45,000 | £1 | £1 | nil. | nil. | --- | ........ | .... | 115/- |
| Sungei Kapar Rubber Co. | 1906 | £110,000 | 23) 110,000 | £1 | £1 | nil. | £3,448 | 31.12.08 | 37½% for 1909 | .... | 18/3 |
| Toerangie Rubber Co. | 1910 | 30) £100,000 | 51,000 | £1 | 7/6 | .... | .... | --- | First year | .... | 2/6 prem. |

| LOANS AND DEBENTURES. | AGENTS FOR THE LOAN. | AMOUNT OF LOAN. | PAR VALUE. | OUTSTANDING BONDS. | WHEN PAYABLE. | CLOSING QUOTATIONS. |
|---|---|---|---|---|---|---|
| China Government, 7 per cent. Silver Loan 1886 E | Hongkong & Shanghai Banking Corporation. | Tls. 767,200 | Tls. 250 | 1914 | Mar. 31st and Sept. 30th each year until Mar. 31st, 1917 | par. |
| Hongkong Hotel Company, Ltd., 6 per cent. Mortgage Debentures of 1899 ‡ | | $750,000 | $500 | § all | Half yearly, June 30th and December 31st | par |
| Shanghai & Hongkew Wharf Company, Ltd., 6 per cent. Debentures of 1902 | | Tls. 543,900 | Tls. 100 | ........ | Half yearly, June 30th and December 31st | Tls. 103½ |
| Astor House Hotel Company, Ltd., 8 per cent. Debentures of 1903 | | Tls. 500,000 | Tls. 100 | ........ | Half yearly, January 1st and July 1st | 102½ |
| Chinese Engineering & Mining Co., Ltd., 6 per cent. Debentures of 1903 † | ........ | £500,000 | ¶ | £431,960 | Half yearly, June 30th and December 31st | par. |
| International Cotton Manufacturing Co., Ltd. 7% Debentures of 1901 | Russo Chinese Bank | Tls. 500,000 | Tls. 100 | ‖ | Half yearly, March 31st and Sept. 30th | Tls. 97½. |

(Closing quotations: Plus interest)

*a* Authorized capital $2,000,000.
*b* Building Reserve Account.
*c* Capital Reserve Fund.
*d* Depreciation Fund.
*e* Equalization of Dividend Fund.
*f* Exchange and Investment Fluctuation Account.
*g* Gold Reserve Fund
*h* Exchange Reserve Account.
*i* Insurance Fund.
*j* Reinsurance Fund.
*k* Contingencies Account.
*l* Legal Reserve Fund.
*m* Authorized Capital
*n* Sinking Fund.
*o* Raw Sugar Reserve Account.
*p* Premium on New Issue.
*q* Boiler Repairs and Renewals Account
*r* Repairs and Renewals Account.
*s* Silver Reserve Fund.
*t* Depreciation and Repair Account
*u* Underwriting Suspense Account.
*v* Special account
*w* Special Works Fund.
*x* Extra Reserve Fund.
*y* 72,560 owned by the Company.
*z* 7,200 shares unissued.
1 4,000 shares unissued.
2 First issue of 60,000, of which 10,411 unallotted.
3 5,000 shares unissued.
4 4,480 shares unissued.
5 5,000 shares unallotted.
6 1,616 shares unallotted.
7 75,000 shares unissued.
8 14,000 shares unissued.
9 17,000 shares unissued.
10 40,453 shares actually issued.
11 7,688 shares actually issued.
12 4,200 shares unissued.
13 500 shares unissued.
14 399 shares unissued.
15 22,277 shares unissued.
16 10,000 shares unissued.
17 Special shares are entitled to half of the profits.
18 Capital contributed by Chinese Government-Kuping Tls. 5,000,000.
19 12,000 issued only.
20 Typhoon and Floods Insurance Fund.
21 Special Cash Reserve.
22 1000 shares unissued.
23 10,000 shares unissued.
24 4595 part paid shares.
25 7,500 shares unissued.
26 10,000 shares unissued.
27 2,350 shares unissued.
28 25,000 shares unissued.
29 100,00 shares unissued.
30) 3,700 fully paid vendor shares and an option of 6,000 shares at par for 5 years granted to option holders.
*Based on last year's dividend.
** Based on present dividend.
§ 216 held by the Company.
‖ Only Tls. 134,000 taken up.
¶ In certificates of £20 and £100.
‡ Redeemable in 10 years, or at option of Comp., the Company giving 6 months notice.
† Redeemable at par at rate of £10,000 per annum from 31st December 1903 to 31st December 95.
*** Redeemable at par on 30th June, 1915.
*Dr.* Deficit.
†† Singapore dollars.
‡‡ 4,880 shares unissued.
× 16,756 shares unissued.
§§ 25,000 shares unissued.
4140 shares unissued.

# ADDITIONAL SHANGHAI SHARE QUOTATIONS

June 25, 1910

| STOCK | CLOSING QUOTATIONS | HIGHEST AND LOWEST PRICES DURING THE WEEK | CAPITAL | NO. OF SHARES | VALUE | PAID UP | RESERVE | LAST DIVIDEND | WHEN PAID |
|---|---|---|---|---|---|---|---|---|---|
| Oriental Consolidated Mining Co., Ltd | 35/10 | | G. $5,000,000 | 500,000 | G. $10 | G. $10 | none | Total of Gold 1.15 for 1909 | Jan. 10, 1910 |
| Vulcan Iron Works, Limited | Tls. 40 | | Tls. 500,000 | 1,000 | Tls. 500 | Tls. 500 | — | Tls. 50 for year ended 31.8.06 | Nov. 1, 1906 |
| Yangtsze Wharf & Godown Co., Limited | Tls. 207 | | Tls. 250,000 | 2,500 | Tls. 100 | Tls. 100 | Tls. 50,000 | Tls. 15 for 1909 | April 1, 1910 |
| Wei-hai-wei Land & Building Co., Limited | Tls. 9 nominal | | Tls. 91,850 | 3,674 | Tls. 25 | Tls. 25 | — | Interim of $2.00 for 1909 | Aug. 3, 1909 |
| Anglo-German Brewing Co., Limited | $85 buyers | | $100,000 | 4,000 | $100 | $100 | none | 5% for 1909 | Mar. 12, 1910 |
| Butler Tile Works, Limited | Tls. 25 | | Tls. 60,000 | 1,200 | Tls. 50 | Tls. 50 | — | Tls. 3 for year ending 31.3.09 | June 8, 1909 |
| Major Bros., Limited | Tls. 55 | | Tls. 300,000 | 6,000 | Tls. 50 | Tls. 50 | — | — | — |
| Oriental Ice Company, Limited | Tls. 20 | | Tls. 130,000 | 2,600 | Tls. 50 | Tls. 50 | — | First year | — |
| Scharffs Oil and Bone Mills, Ltd | Tls. 40 | | Tls. 200,000 | 4,000 | Tls. 50 | Tls. 50 | — | First year | — |
| Shanghai Ice Company, Limited | Tls. 12 | | Tls. 200,000 | 8,000 | Tls. 25 | | — | 3% for 1907 | Mar. 14, 1908 |
| Campbell, Moore & Co., Limited | $10 | | $12,000 | 1,200 | $10 | $10 | $9,000 | $3 for 1905 | Apr. 2, 1906 |
| Dunning & Company, Limited | $35 sellers | | $100,000 | 2,000 | $50 | $50 | — | $5 year ending 28.2.08 | Apr. 15, 1908 |
| J. Llewellyn & Co., Limited | $60 nominal | | $72,000 | 1,200 | $60 | $60 | — | 7.20 for 1909 | May 1, 1910 |
| Lane, Crawford & Company | $150 | | $250,000 | 2,500 | $100 | $100 | — | Final of 3% making 6% for 1908 | June 8, 1909 |
| S. Moutrie & Company, Limited | $40 | | $250,000 | 5,000 | $50 | $50 | — | $2 for year ended March 31, 1909 | June 18, 1909 |
| Weeks & Company, Limited | $23 | | $400,000 | 20,000 | $20 | $20 | $40,000 | Final of 6% making 10% for 1909 | June 1, 1910 |
| Dominion Rubber Co., Limited | Tls. 62½ | | Tls. 225,000 | 22,500 | Tls. 10 | Tls. 4 | — | First year | — |
| Kalumpong Rubber Co., Ltd | Tls. 700 | | Tls. 700,000 | 14,000 | Tls. 50 | Tls. 50 | ** Tls. 11,844.48 | 16% for 1908 | Nov. 9, 1909 |
| Senawang Rubber Estates Company, Limited | Tls. 1550 | | Tls. 250,000 | 2,500 | Tls. 100<br>Tls. 100 | Tls. 100<br>Tls. 75 | — | — | — |
| Tebong Rubber and Tapioca Estate, Limited | Tls. 48 | | £76,000 | 76,000 | £1 | £1 | — | — | — |
| Shanghai Mercury, Limited | Tls. 50 buyers | | Tls. 105,500 | 2,100 | Tls. 50 | Tls. 50 | — | Final of 6% making 16% year 1909 | June 22, 1910 |
| Shanghai Mutual Telephone Co., Limited | Tls. 67½ buyers | | Tls. 675,000 | 13,500 | Tls. 50 | Tls. 50 | — | Tls. 3 for 1907 | June 28, 1909 |
| China Export, Import & Lumber Company, Limited | Tls. 75 | | Tls. 350,000 | 500 | Tls. 100 | Tls. 50 | — | 5 p. c. for 1909 | May 1, 1910 |
| China Printing Co., Limited | Tls. | | Tls. 750,000 | 1,500 | Tls. 50 | Tls. 50 | — | 7% 1908 | Apr. 18, 1909 |
| Hirano Mineral Water Co., Ltd. | Y. 10 | | Y. 125,000 | 5,000 | Y. 25 | Y. 25 | — | 10%=yen 2½ for year ending 30th Sept. 08 Y. 1.20 for year ended Feb. 29 | Apr 26, 1909 |
| E. E. Porter & Co., Limited | $50 | | $100,000 | 2,000 | $50 | $50 | — | $6 for 1907 | Apr. 22, 1908 |
| Shanghai Electric & Asbestos Company, Limited | $21 sellers | | $125,000 | 5,000 | $25 | $25 | — | 8% for year ended Feb. 28, 09 | June 21, 1909 |
| Shanghai Electric Construction Company, Limited | £6 sellers | £11 | £320,000 | 32,000 | £10 | £10 | — | First year | — |

# DEBENTURES

| LOANS | | PRICE—PLUS ACCRUED INTEREST | AMOUNT OF LOAN | OUTSTANDING | NOMINAL VALUE | RATE OF INTEREST | WHEN PAYABLE |
|---|---|---|---|---|---|---|---|
| Shanghai Municipal Debentures | 1892 | Tls. 92½ | Tls. 50,000 | Tls. 45,400 | Tls. 100 | 5 % | June & Dec. |
| do | 1893 | ,, 96 | ,, 125,000 | " 32,000 | " 100 | 5½ ,, | Do |
| do | 1894 | ,, 105 | ,, 105,000 | " 60,000 | " 100 | 6 ,, | Do |
| do | 1895 | ,, 92½ | ,, 115,000 | " 32,600 | " 100 | 5 ,, | Do |
| do | 1896 | ,, 92½ | ,, 140,000 | " 181,800 | " 100 | 5 ,, | Do |
| do | 1897 | ,, 92½ | ,, 268,800 | " 268,400 | " 100 | 5 ,, | Do |
| do | 1898 | ,, 105 | ,, 300,000 | " 60,000 | " 100 | 6 ,, | Do |
| do | 1900 | ,, 96 | ,, 33,900 | " 31,700 | " 100 | 5½ ,, | Do |
| do | 1901 | ,, 105 | ,, 250,000 | " 200,000 | " 100 | 6 ,, | Do |
| do | 1902 | ,, 105 | ,, 150,000 | " 150,000 | " 100 | 6 ,, | Do |
| do | 1903 | ,, 105 | ,, 490,500 | " 490,500 | " 100 | 6 ,, | Do |
| do | 1904 | ,, 105 | ,, 214,500 | " 214,500 | " 100 | 6 ,, | Do |
| do | 1905 | ,, 105 | ,, 320,000 | " 320,000 | " 100 | 6 ,, | Do |
| do | 1907 | ,, 105 | ,, 250,000 | " 250,000 | " 100 | 6 ,, | Do |
| Chinese Imperial Government Loan | 1886 E | ,, 250 | ,, 767,200 | " 354,400 | " 250 | 7 ,, | Mar. & Sept |
| Shanghai Land Investment Co., Debentures | 1890 | ,, 103½ | ,, 250,000 | " 250,000 | " 100 | 6 ,, | May & Nov. |
| do | 1892 | ,, 96 | ,, 250,000 | " 250,000 | " 100 | 5½ ,, | June & Dec. |
| do | 1894 | ,, 103½ | ,, 250,000 | " 250,000 | " 100 | 6 ,, | Mar. & Sept. |
| do | 1896 | ,, 92½ | ,, 250,000 | " 250,000 | " 130 | 5 ,, | June & Dec. |
| do | 1900 | ,, 103½ | ,, 250,000 | " 250,000 | " 100 | 6 ,, | April & Oct. |
| do | 1901 | ,, 104 | ,, 250,000 | " 250,000 | " 100 | 6 ,, | June & Dec. |
| do | 1901 | ,, 96 | ,, 100,000 | " 100,000 | " 100 | 5 ,, | May & Nov. |
| do | 1902 | ,, 103½ | ,, 400,000 | " 400,000 | " 100 | 6 ,, | June & Dec. |
| do | 1905 | ,, 103¼ | ,, 250,000 | " 250,000 | " 100 | 6 ,, | Do |
| Shanghai Waterworks Co., Debentures | 1909 | ,, 103 | ,, 815,900 | " 815,900 | " 100 | 6 ,, | Do |
| Perak Sugar Cultivation Co., Debentures | 1902 | ,, 101 | ,, 200,000 | " 200,000 | " 100 | 7 ,, | April & Oct. |
| Shanghai Gas Co., Debentures | 1909 | ,, 103 | ,, 800,000 | " 800,000 | " 100 | 5 ,, | Do |
| Shanghai and Hongkew Wharf Co., Debentures | 1902 | ,, 102 | ,, 839,100 | " 799,800 | " 100 | 6 ,, | June & Dec. |
| Astor House Co., Debentures | 1905 | ,, 103 | ,, 750,000 | " 500,000 | " 100 | 7 ,, | Do |
| British Municipal Council, Hankow | 1901 | Sh. ,, 105 | H'kow Tls 100,000 | H'kow Tls 100,000 | " 100 | 7 ,, | June & Dec. |
| Shanghai Club Debentures | 1907 | ,, 100 | Tls. 170,000 | Tls. 170,000 | " 100 | 6 ,, | Do |
| Country Club Debentures | | ,, 97 | ,, 139,000 | " 139,000 | " 100 | 6 ,, | Do |
| do | 1907 | ,, 97 | ,, 92,000 | " 92,000 | " 100 | 6 ,, | Do |
| Lane Crawford & Co., Debentures | 1907 | ,, 102½ | ,, 110,000 | " 110,000 | " 100 | 7 ,, | Mar. & Sept. |
| Anglo-French Land Debentures | 1908 | ,, 102 | ,, 250,000 | " 250,000 | " 100 | 6 ,, | June & Dec. |
| Central Stores Ltd. Debentures | 1908 | ,, 102½ | ,, 250,000 | " 250,000 | " 100 | 8 ,, | Do |
| Shanghai Mutual Tel. Co. Debentures | 1909 | ,, 102½ | ,, 350,000 | " 200,000 | " 100 | 6 ,, | Do |

# SINGAPORE SHARE QUOTATIONS

(Courtesy Messrs. Fraser & Co., Brokers, Singapore, June 22, 1910)

| Date of Formation | Capital | Capital paid up | No. of Shares Issued | Issue Value | Paid up | Reserve | Last Dividend | Name | Buyers. | Sellers. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | **MINING** | | |
| 1906 | £30,000 | 30,000 | 30,000 | 1 | 1 | ........ | ........ | Malaya and Siam Corporation Ltd. | 7/6 | 10/- |
| 1906 | £250,000 | 179,500 | 500,000e | 5/- | 5/- | ........ | ........ | Pahang Consolidated Co., Ltd. | 5/- | 6/- |
| 1903 | $300,000 | 300,000 | 30,000 | 10 | 10 | ........ | 10% interim for 1909 | Belat Tin Mining Co., Ltd. | 4.00 | 5.00 |
| 1907 | $300,000 | 225,000 | 22,500s | 10 | 10 | ........ | ........ | Bruang Ltd. | 4.00 | 5.00 |
| 1901 | $600,000 | 600,000 | 60,000 | 10 | 10 | 25,000 | 6% for year ending 30-4-09 | Bruseh Hydraulic Tin Mining Co., Ltd. | 5.00 | 6.00 |
| 1907 | $400,000 | 375,000 | 37,500b | 10 | 10 | ........ | ........ | Kanaboi, Ltd. | 2.25 | 2.40 |
| 1901 | £60,000 | 60,000 | 60,000 | 1 | 1 | ........ | 2/- interim 1909 | Kinta Tin Mines, Ltd. | 14.00 | 14.75 |
| 1905 | $150,000 | 99,000 | 9,900c | 10 | 10 | 6,485.68 | 35% for year ending 31-12-07 | Kuantan Tin Mining Co., Ltd. | 3.00 | 3.25 |
| 1906 | £120,000 | 120,000 | 120,000 | 1 | 1 | ........ | 1/- interim 1909. | Lahat Mines Ltd. | 8.50 | 9.00 |
| 1906 | $450,000 | 450,000 | 45,000 | 10 | 10 | ........ | ........ | Malacca Tin Dredging Co., Ltd. | 2.00 | 2.75 |
| 1907 | £100,000 | 80,000 | 80,000a* | 1 | 1 | ........ | ........ | Pengkalen, Ltd. | 5.50 | 6.50 |
| 1904 | £100,000 | 80,000 | 80,000 | 1 | 1 | ........ | ........ | Pusing Bahru Tin Mines, Ltd | 7.50 | 8.50 |
| 1904 | £120,000 | 100,000 | 100,000d | 1 | 1 | 6,000 | 45% for year ending 30-6-07 | Pusing Lama Tin Mines, Ltd. | .... | 3.50 |
| 1907 | $450,000 | 300,000 | 30,000y | 10 | 10 | ........ | ........ | Rahman Hydraulic Tin, Ltd. | 9.00 | 9.50 |
| 1905 | £27,000 | 27,000 | 27,000 | 1 | 1 | ........ | 1/- for 1907 | Rambutan, Ltd. | 12.50 | 13.50 |
| 1892 | £200,000 | 200,000 | 200,000 | 1 | 1 | 4,873 | 1/2 paid April, 1910 | Raub Aust. Gold Ming. Co., Ltd, | 5.00 | 5.25 |
| 1905 | £40,000 | 40,000 | 40,000 | 1 | 1 | ........ | ........ | Redhills Tin Mining Co., Ltd. | 3.00 | 3.50 |
| 1900 | $110,000 | 110,000 | 22,000 | 5 | 5 | ........ | 3% for year ending 22-1-09. | Royal Johore Tin Mining Co., Ltd. | 1.35 | 1.50 |
| 1907 | $550,000 | 500,000 | 50,000f* | 10 | 10 | ........ | ........ | Salak South, Ltd. | 1.75 | 3.00 |
| 1907 | £80,000 | 80,000 | 80,000 | 1 | 1 | ........ | ........ | Sempam Tin Mines, Ltd. | 2.00 | 2.50 |
| 1906 | $850,000 | 850,000 | 85,000 | 10 | 10 | 25,000 | 5% interim 1909 | Serendah Hydraulic Tin Ming. Co., Ltd. | 6.00 | 7.00 |
| 1899 | $230,000 | 230,000 | 23,000 | 10 | 10 | ........ | 3% for ½ year ending 31-12-08. | Sipiau Tin Co., Ltd. | 1.50 | 2.00 |
| 1909 | $200,000 | $150,000 | 15,000 | 10 | 10 | ........ | ........ | Sungei Gau Tin Mining Co., Ltd | 4.00 | 5.00 |
| 1907 | £90,000 | 70,000 | 70,000t | 1 | 1 | ........ | 1/6 interim 1909 | Tekka, Limited | 22.00 | 24.00 |
| 1906 | £150,000 | 150,000 | 150,000 | 1 | 1 | ........ | 1/- interim 1909 | Tongkah Harbour Tin Dredging Co., Ltd. | 10.00 | 11.00 |
| 1902 | £160,000 | 160,000 | 160,000 | 1 | 1 | ........ | 3/- interim 1909 | Tronoh Mines, Ltd. | 12.00 | 13.00 |

# SINGAPORE SHARE QUOTATIONS.—(Continued.)

| Date of Formation | Capital | Capital paid up | No. of Shares Issued | Issue Value | Paid up | Reserve | Last Dividend | Name | Buyers. | Sellers. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | **STERLING RUBBER** | | |
| 1909 | £85,000 | 75,000 | 750,000x* | 2/- | 2/- | | | Allagar Rubber Estates, Ltd. | 6/6 | 7/3 |
| 1905 | £150,000 | 150,000 | 1,500,000 | 2/- | 2/- | | 80% for year ending 31-12-09 | Anglo-Malay Rub. Co., Ltd. | 1.8.0 | 1.10.0 |
| 1909 | £50,000 | 35,250 | 470,000g‡ | 2/- | 1/6 | | | Batang Malaka Rubber Estates, Ltd | 1/- | 2/- p. |
| 1904 | £30,000 | 20,187 10/- | 19,000 | 1 | 1 | | 50% for year ending 31-12-1909 | Batu Caves Rub. Co., Ltd | 14.10.0 | 15.0.0 |
| | | | 4,750f | 1 | 5/- | | | | | |
| 1906 | £80,000 | 70,000 | 70,000l* | 1 | 1 | | 2½% interim 1909 | Batu Tiga (Selangor) Rubber Co., Ltd. | 5.5.0 | 5.10.0 |
| 1909 | £100,000 | 68,908 | 57,816 | 1 | 1 | | | Bukit Kajang Rubber Estates, Ltd | 3.5.0 | 3.10.0 |
| | | | 22,184n* | 1 | 10/- | | | " " " part paid | 2.0.0 | 2.7.6 p. |
| 1907 | £30,000 | 25,500 | 24,000e* | 1 | 1 | | | Bukit Lintang Rubber Estates, Ltd | 5.5.0 | 5.15.0 |
| | | | 6,000 | 1 | 5 | | | " " " part paid | 2.0.0 | 2.7.6 p. |
| 1903 | £70,000 | 66,700 | 66,700g | 1 | 1 | 2,000 | 60% interim 1909 | Bukit Rajah Rubber Co., Ltd. | 19.0.0 | 20.0.0 |
| 1906 | £35,000 | 30,000 | 30,000s* | 1 | 1 | | | Castlefield (K.) R. Estate, Ltd. | 6.0.0 | 6.10.0. |
| 1909 | £225,000 | 175,000 | 1750,000t* | 2/- | 2/- | | | Chersonese (F.M.S.) Estates, Ltd | 5/- | 6/- |
| 1904 | £16,000 | 16,000 | 100,000 | 2/- | 2/- | | 25% interim 1909 | Cicely Rubber Estates Co., Ltd | 2.12.0 | 2.14.0 |
| | | | 60,000 | 2/- | 2/- | | 26¼% interim 1909 | " " " " 5% *Pref.* | 2.12.0 | 2.14.0 |
| 1905 | £75,000 | 62,007 | 620,070i | 2/- | 2/- | 1,000 | 80% for 1909 | Consolidated Malay Rub. Estates, Ltd | 1.8.6 | 1.10.6 |
| 1906 | £110,000 | 102,500 | 102,500k* | 1 | 1 | | 50% for year ending 31-12-09 | Damansara (Selangor) Rubber Co., Ltd. | 8.12.6 | 9.2.6 |
| 1903 | £600,000 | 444,200 | 444,200a | 1 | 1 | | | Duff Development Co., Ltd | 1.0.6 | 1.1.6 |
| 1909 | £45,000 | 40,000 | 40,000p* | 1 | 1 | | 15% for year ending 31-12-09 | Edinburgh Rub. Estates, (Selangor) Ld. | 6.10.0 | 7.10.0 |
| 1907 | £80,000 | 70,000 | 70,000n | 1 | 1 | | 25% for year ending 31-12-09 | Golconda Rubber Co., Ltd. | 6.15 0 | 7.5.0 |
| 1906 | £310,000 | 305,000 | 305,000j | 1 | 1 | 8,784 | 15% interim 1909 | Highlands & Lowds. Para Rub. Co., Ltd. | 6.10.0 | 6 15 0 |
| 1904 | £50,000 | 30,000 | 30,000q* | 1 | 1 | 2,500 | 25% interim | Inch Kenneth Rubber Estates, Ltd | 16 0.0 | 17.0.0 |
| 1909 | £200,000 | 182,500 | 950,000p | 2/- | 1/- | | | Kam. (P.) R. & T. Co., Ltd. "A" Shares | 8/6 | 9/6 p. |
| | | | 105,000 | 1 | 1 | | | " " " " "B" " | .... | nom. |
| 1905 | £65,000 | 65,000 | 65,000 | 1 | 1 | | 10% for year ending 31-12-09 | Kapar Para Rubber Estates, Co., Ltd | 10.0.0 | 10.15.0 |
| 1909 | £35,000 | £18,750 | 90,000 | 2/- | 2/- | | | Kota Tinggi Johore Rubber Co., Ltd | 3/3 | 4/- |
| | | | 160,000 | 2/- | 1/- | | | " " " " | 1/8 | 2/- p |
| 1906 | £180,000 | 180,000 | 180,000 | 1 | 1 | | 30% interim | Kuala Lumpur Rubber Co., Ltd | 9.10.0 | 10.10.0 |
| 1907 | £100,000 | 90,000 | 900,000h* | 2/- | 2/- | | 25% for year ending 31-12-09 | Labu (F. M. S.) Rub. Co., Ltd. | 15/6 | 17/- |
| 1907 | £320,000 | 269,780 | 198,930v | 1 | 1 | 3,000 | 10% interim 1909 | Lanadron Rubber Estates, Ltd. | 7.5.0 | 7.10.0 |
| | | | 70,850 | 1 | 15/- | | 10% interim 1909 | " " " part paid | 6.0.0 | 6.10.6p. |
| 1908 | £125,000 | 75,000 | 60,000g* | 1 | 1 | | | Ledbury Rubber Estates Ltd. | 4 10.0 | 5.0.0 |
| | | | 40,000 | 1 | 7/6 | | | " " " part paid | 2.15.0 | 3.5.0 p. |
| 1895 | £100,000 | 98,324 8/- | 883,244w | 2/- | 2/- | 4,000 | 165% for year ending 31-12-09 | Linggi Plantations Ltd., | 3.0.0 | 3.3.0 |
| | | | 10,000 | 1 | 1 | | 7% for year ending 31-12-08 | " " " 7% *Pref.* | .... | nom. |
| 1907 | £140,000 | 118,000 | 1,180,000k | 2/- | 2/- | | 3% for year ending 31-12-08 | London Asiatic R. & Produce Co., Ltd. | 15/6 | 17/6 |
| 1909 | £220,000 | 125,000 | 50,000 | 1 | 1 | | | Lumut Rubber Estates, Ltd. | 2.15.0 | 3.5.0 |
| | | | 150,000 | 1 | 10/- | | | " " " " part paid | 27/6 | 35/- p. |
| 1906 | £400,000 | 300,000 | 185,000 | 1 | 1 | | 10% interim for 1909 | Malacca Rubber Plants., Ltd. | 12.0.0 | 13.0.0 |
| | | | 115,000 | 1 | 1 | | " " " | " " " " 7½% *Pref.* | 12.0.0 | 13.0.0 |
| 1909 | £210,000 | 175,000 | 1,750,000 | 2/- | 2/- | | | Merlimau Rubber Estates, Ltd | 7/3 | 7/9 |
| 1903 | £30,000 | 22,500 | 225,000l | 2/- | 2/- | | 125% for year ending 31-12-09 | Pataling Rubber Estates Synd. Ltd | 3.10.0 | 3.12.6 |
| 1906 | £85,000 | 85,000 | 85,000 | 1 | 1 | | 12½% interim for 1909 | Perak Rubber Plantations, Ltd | 5.17.6 | 6.7.6 |
| 1909 | £60,000 | 36,875 | 15,000z* | 1 | 1 | | | Rembia Rubber Estates Ltd. | 1.15.0 | 2.0.0 |
| | | | 35,000 | 1 | 12/6 | | | " " " 6% *Cum. Pref.* | 13/6 | 16/6 p. |
| 1904 | £20,000 | 18,752 | 20,000u | 1 | 1 | | | Sagga Rubber Company, Limited | 15.0.0 | 16.0.0 |
| 1905 | £100,000 | 100,000 | 71,378 | 1 | 1 | | | Sapong Rubber and Tobacco Estates, Ltd. | 1.10.0 | 1.12.6 |
| | | | 28,622l‡ | | | | | | | |
| 1907 | £100,000 | 100,000 | 100,000 | 1 | 1 | | 15% for year ending 31-12-09 | Seafield Rubber Co., Ltd | 7.12.6 | 8.0.0 |
| 1898 | £30,000 | 30,000 | 300,000 | 2/- | 2/- | 3,000 | 287½% for year ending 31-12-09 | Selangor Rubber Co., Ltd | 3.14.0 | 3.18.0 |
| 1909 | £50,000 | 32,000 | 40,000e‡ | 1 | 16/- | | | Sendayan (F. M. S.) Rubber Co., Ltd | 1.17.6 | 2.5.0 p. |
| 1906 | £65,000 | 65,000 | 65,000 | 1 | 1 | | 7½% for year ending 31-12-09 | Shelford Rubber Estate, Ltd | 3.15.0 | 4.0.0 |
| 1909 | £150,000 | 100,000 | 100,000i‡ | 1 | 15/- | | | Sialang Rubber Estates, Ltd | 1.10.0 | 1.12.6p. |
| 1909 | £120,000 | 100,000 | 100,000s* | 1 | 1 | | | Singapore Para Rubber Estates, Ltd. | 3.15.0 | 4.0.0 |
| 1906 | £192,500 | 192,500 | 1,925,000 | 2/- | 2/- | | 7½% interim 1909 | Straits Settlements (B.) Rub. Co., Ltd | 8/6 | 9/6 |
| 1907 | £45,000 | 40,500 | 12,600 | 1 | 1 | | | Sungei Choh Rub. Estate, Co. Ltd. *Fully pd.* | 6.0.0 | 6.10.0 |
| | | | 32,400 | 1 | 17/6 | | | " " " " part paid | 5.0.0 | 5.10.0p. |
| 1906 | £110,000 | 100,000 | 1,000,000c* | 2/- | 2/- | | 37½% for year ending 31-12-09 | Sungei Kapar Rubber Co., Ltd | 18/- | 20/- |
| 1907 | £70,000 | 55,000 | 55,000 | 1 | 1 | | | Sungei Salak Rubber Co., Ltd | 4.10.0 | 5.0.0 |
| 1904 | £50,000 | 50,000 | 50,000 | 1 | 1 | | | Sungei Way (Selangor) Rub. Co., Ltd | 6.2.6 | 6.10.0 |
| 1908 | £150,000 | 60,000 | 36,000 | 1 | 1 | | | Tebrau (Johore) Rubber Co | 4.15.0 | 5.0.0 |
| | | | 64,000 | 1 | 7/6 | | | " " " part paid | 3.0.0 | 3.15.0p. |
| 1907 | £200,000 | 170,000 | 170,000j* | 1 | 1 | | 5% interim 1910 | United Serdang (S.) R. Plantations, Ltd. | 6.10.0 | 7.5.0 |
| 1908 | £85,000 | 65,000 | 650,000 | 2/- | 2/- | | 10% for year ending 30-6-09 | United Sumatra Rubber Estates, Ltd. | 11/- | 12/- |
| 1904 | £60,000 | 50,600 | 506,000m | 2/- | 2/- | | 25% interim for 1909 | Vallambrosa Rubber Co., Ltd. | 2.12.6 | 2.15.0 |
| | | | | | | | | **DOLLAR** | | |
| 1909 | $120,000 | 105,000 | 105,000w* | 1 | 1 | | | Alor Gajah Rubber Estate, Ltd | 3.00 | 3.50 |
| 1909 | $750,000 | 600,000 | 140,000b‡ | 5 | 5 | | | Ayer Panas Rubber Estates, Ltd. | 11.75 | 12.25 |
| 1905 | $200,000 | 151,200 | 151,200 | x 1 | 1 | 5,250 | 100% for year ending 31-3-1910 | Balgownie Rub. Estate, Ltd | 19.00 | 20.00 |
| 1910 | $500,000 | 500,000 | 50,000 | 10 | 10 | | | Bukit Timah Rubber Estates, Ltd. | 19.00 | 21.00 |
| 1910 | $750,000 | 700,000 | 70,000h‡ | 10 | 10 | | | Changkat Serdang Estates. Ltd | 14.00 | 16.00 |
| 1909 | 200,000 | 87,500 | 12,500 | 10 | 7 | | | Cheras Rubber Estates, Ltd | 9.00 | .... p |
| 1909 | $550,000 | 475,000 | 475,000v* | 1 | 1 | | | Elphinstone Estates, Ltd | 3.00 | 3.25 |
| 1909 | $300,000 | 300,000 | 300,000 | 1 | 1 | | | Glenealy Plantations, Ltd. | 2.75 | 3.00 |
| 1910 | $200,000 | 164,285 | 12,857m‡ | 5 | 5 | | | Haytor Rubber States, Ltd. | .... | nom. |
| | | | 20,000 | 5 | 4 | | | " " " " part paid | 4.00 | 6.00 p. |
| 1910 | $600,000 | 150,000 | 30,000c‡ | 10 | 5 | | | Henrietta Estates, Ltd. | par. | 3.00 p. |
| 1906 | $680,000 | 680,000 | 40,000 | 17 | 17 | | | Hevea Rubber Planting Co. Ltd. | 18.00 | 20.00 |
| 1909 | $250,000 | 200,000 | 20,000a‡ | 10 | 10 | | | Indragiri (S.) R. and Gutta P. Co., Ltd. | 20.00 | 25.00 |
| 1910 | 350,000 | 291,000 | 55,000 | 5 | 5 | | | Kelemak Rubber Estate, Ltd. | 5.00 | 5.25 |
| | | | 59,000 | 5 | 4 | | | " " " part paid | 0.50 dis. | par. |
| 1907 | $300,000 | 200,000 | 20,000d‡ | 10 | 7 | | | Kombok Rubber Co., Ltd | 20.00 | 25.00p. |
| 1909 | $400,000 | 400,000 | 80,000 | 5 | 5 | | | Pajam Limited. | 16.05 | 17.00 |
| 1909 | $200,000 | 200,000 | 200,000 | 1 | 1 | | | Pantai, Limited | 2.00 | 2.25 |
| 1909 | $500,000 | 450,000 | 45,000m* | 10 | 10 | | | Pegoh, Limited | 42.50 | 45.00 |
| 1910 | $450,000 | 295,000 | 45,000f‡ | 5 | 5 | | | Port Dickson Rubber Co., Ltd | 14.50 | 15.00 |
| | | | 35,000 | 5 | 2 | | | " " " | 5.00 | 6.00 p. |
| 1904 | $100,000 | 100,000 | 50,000b* | 2 | 2 | 20,000 | 150% for year ending 31-1-10 | Sandycroft Rubber Co., Ltd | 39.00 | 40.00 |
| 1905 | $500,000 | 500,000 | 5,000 | 100 | 100 | | | Singapore Rubber Co., Ltd. | 475.00 | 500.00 |
| 1903 | $425,000 | 328,800 | 121,150 | 2 | 2 | | 20% for year ending 31-12-09 | Singapore & Johore Rub. Co., Ltd. | 17.50 | 18.00 |
| | | | 87,500 | 2 | 1 | | " " " " | " " " part paid | 15.50 | 16.00 p. |
| 1909 | $250,000 | 100,000 | 10,000o* | 10 | 10 | | | St. Helena Rubber Coy., Ltd | 40.00 | 45.00 |
| 1909 | $200,000 | 165,000 | 33,000p* | 5 | 5 | | | Teluk Anson Rubber Estate, Ltd. | 8.00 | 9.00 |
| 1909 | $1,000,000 | 637,500 | 737,500y* | 1 | 1 | | | United Singapore Rubber Estates, Ltd. | 2.00 | 2.15 |
| | | | | 1 | -/50 | | | " " " " " | .... | nom. |
| | | | | | | | | **GENERAL** | | |
| 1903 | £400,000 | 400,000 | 400,000 | 1 | 1 | | | Singapore Electric Tramways, Co., Ltd. | 4/3 | 4/9 |
| 1907 | $1,500,000 | 1,065,150 | 25,000d* | 10 | 10 | | 10% for year ending 31/12/08 | Eastern Smelting Co. Ltd. | .... | 10.00 n. |
| | | | 116,450 | 10 | 7 | | 10% for year ending 31-12-08 | " " " part paid | .... | 6.00 |
| 1898 | $225,000 | 225,000 | 4,500 | 50 | 50 | 170,000 | 15% & 5% bon. for yr. end. 31-12-09 | Fraser & Neave, Ltd. | 205.00 | 215.00 |
| 1905 | $2,400,000 | 2,400,000 | 18,000 | 100 | — | 75,000 | 2½% for year ending 31-10-08 | Howarth Erskine, Ltd. | 58.00 | 60.00 |
| | | | 6,000 | 100 | — | | 7% for year ending 31-10-08 | " " 7% *Pref* | 90.00 | 92.50 |
| 1896 | $1,000,000 | 1,000,000 | 6,000 | 100 | 100 | 40,600 | 12% for year ending 31-12-09 | Katz Brothers, Ltd. *Deferred* | .... | 125.00 |
| | | | 4,000 | 100 | 100 | | 8% " " " "09 | " " 8% *Cum. Pref* | .... | nom. |
| 1901 | $34,000 | 34,000 | 3,400 | 10 | 10 | | 20% for year ending 31-10-09 | Maynard & Co., Ltd. | 22.00 | 23.50 |
| 1899 | $875,000 | 875,000 | 6,000 | 100 | 100 | 175,000 | 5% for year ending 31/12/09 | Riley, Hargreaves & Co., Ltd | 77.50 | 82.50 |
| | | | 2,750 | 100 | 100 | | 7% for year ending 31/12/09 | " " " " 7% *Pref* | 100.00 | .... |
| 1903 | $600,000 | 250,000 | 25,000n | 10 | 10 | | 10% for year ending 30-6-09 | Singapore Cold Storage Co., Ltd | 15.00 | 16.00 |
| 1891 | $30,000 | 30,000 | 600 | 50 | 50 | 23,000 | 10% for year ending 31-7-09 | Singapore Dispensary Ltd. | 52.50 | 54.00 |
| 1884 | $200,000 | 200,000 | 2,000 | 100 | 100 | 75,000 | 15% for year ending 31-12-09 | Straits Ice Co., Ltd | 160.00 | 165.00 |
| 1890 | $500,000 | 498,000 | 4,980z | 100 | 100 | 760,000q | 10% for year ending 31-12-09 | Straits Steam Ship Co., Lt | 210.00 | 220.00 |
| 1887 | $3,000,000 | 3,000,000 | 300,000 | 10 | 10 | 130,000r<br>1,222,409 | 10% & 5% bon. for half yr. end. 30/9/09 | Straits Trading Co., Ltd | 58.50 | 59.00 |

a { 152,800 unissued; 43,949 6% debenture
b 2,500 unissued
c 5,100 "
d 20,000 "
e { 54,500 £1 Prefs. issued; 45,500 £1 " unissued; 100,000 5/- Ord. "
f 6,250 unissued
g 3,300 "
h 129,930 "
i 5,000 "
j £40,000 6% Debentures 220,000 unissued
k 75.000 unissued
l 94.000 "
m 35.000 "
n 20.000 unissued
o 175,000 unissued "A" shares
p Sundry Reserves.
q "
r 7,500 unissued
s 20.000 "
t 2,268 9/- paid shares
u 50,220 unissued
v 16,756 "
w 4.880 "
x 15,000 "
y 20 unissued
z 20.000 "
a* 221 7½% Debentures
b* 100,000 unissued
c* 8,550 "
d* 5,000 unissued
e* 25,000 "
f* 100,000 "
g* 30,000 "
h* 7,500 "
i* £10,000 Convertible 6% Debentures issued £10,000 do. unissued
j* 5,000 unissued
k* 20,000 "
l* 15,000 "
m* 7,000 "
n* 20,000 "
o* 5,000 "
p* 500,000 "
q* 15,000 "
r* 75,000 "
s* 15,000 unissued
t* 100,000 "
u* 262,500 "
v* 10.000 "
w* 5,000 "
x* 30,000 "
y* 30,000 "
z* 10,000 "
a‡ 10,000 "
b‡ 10,000 "
c‡ 30,000 "
d‡ 5,000 "
e‡ 50,000 "
f‡ 70,000 "
g‡ 35,000 "
h 6% Deb. Stock Convertibl .
i‡ 7,143 unissued.

**DEBENTURES**

| Name | Buyers. | Sellers. |
|---|---|---|
| Howarth Erskine, Ltd. 6% ........ $ 600,000 | .... | par. |
| Riley, Hargreaves & Co., Ltd. 6%, 284,000 | 1% | 3% p. |
| Singapore Electric Tramways, Co., Ltd. 5% ........ £350,000 | .... | .... |
| Singapore Municipal 5% ........ 1,878,000 | .... | nom. |
| " " 4½% of 1907 ... 1,600,000 | 6% | 7% p. |
| " " 4½% of 1909 ... 1,000,000 | 7% | 8% p. |
| " 4% ........ 602,900 | .... | 7% d. |

# YOKOHAMA SHARE QUOTATIONS

Courtesy A. C. Hutton Potts, Share and General Broker, Yokohama, June 24th, 1910.

| STOCKS. | CAPITAL. | NO. OF SHARES. | ISSUE VALUE. | AMOUNT PAID UP. | RESERVE FUND. | AT WORKING ACCOUNT OR CARRIED FORWARD. | DATE. | LAST DIVIDEND. | FOR TERM. | CLOSING QUOTATION. |
|---|---|---|---|---|---|---|---|---|---|---|
| Brett & Co., Ltd. | -Y- 28,000 | 2,800 | -Y- 10 | -Y- 10 | | | 31-12-09 | 12½% | for 1 year | 15 Sellers |
| Club Hotel, Ltd. | 185,000 | 1,850 | 100 | 100 | 3,000 | -Y- 768.96 | 31-3-10 | 6% | for 1 year | 70 Nominal |
| Grand Hotel, Ltd. | 500,000 | 5,000 | 100 | 100 | 10,000 | | 31-12-09 | 2½% | for ½ year | 95 Sales. |
| Helm Bros., Ltd. | 186,000 | 3,720 | 50 | 50 | 25,000 | -Y- 6,395.55 | 31-12-09 | 17½% | for 1 year | 80 Sales |
| Langfeldt & Co., Ltd. | 100,000 | 2,000 | 50 | 50 | 12,500 | 3,653.92 | 31-12-09 | 10% | for 1 year | 60 Sellers. |
| C. Nickel & Co., Ltd. † | 500,000 | 20,000 | 25 | 25 | | 36,332.37 | 31-10-09 | 20% | for 1 year | 50 Sales. |
| Thwaites, Limited | 100,000 | 2,000 | 50 | 50 | | | First Year | — | — | |
| Yokohama Engine and Iron Works * | 500,000 | 10,000 | 50 | 50 | 50,000 | -Y- 29,421.19 | 31-5-09 | — | for 1 year | 50 Nominal |
| Oriental Hotel, Ltd., Ordinary | 250,000 (Ordinary and Preference) | 3,000 | 50 | 50 | 306,090.49 (Ordinary and Preference) | | 31-8-07 | 12% | for 1 year | 50 Sales. |
| Oriental Hotel, Ltd., Preference | | 2,000 | 50 | 50 | | | | 8% | for 1 year | 52:50 Sales |
| The Union Estate and Investment Co., Ltd. ‡ | 1,000,000 | 10,000 | 100 | 100 | 6,000.00 | 1,753.03 | 30-9-09 | 6½% | for 1 year | 100 Nominal. |

† 285,000 unissued.
‡ 475,000 unissued.

*-Y- 390,000 issued.
110,000 unissued.

| DEBENTURE LOANS. | AMOUNT OF LOAN. | FACE VALUE OF DEBENTURES. | RATE OF INTEREST. | INTEREST PAYABLE. | CLOSING QUOTATION. |
|---|---|---|---|---|---|
| Brett & Company, Limited | 11,500.00 | 100.00 | 7% | 1 June and 1 Dec. | 95 Sales. |
| Yokohama United Club | 250,000.00 | 100.00 | 7% | 30 June and 31 Dec. | 100 Sales. |
| Oriental Hotel, Limited | 350,000.00 | 100.00 | 8% | 1 April and 1 Oct. | 103 Sales. |
| Union Estate and Investment Co., Limited | 250,000.00 | 100.00 | 6% | 30 June and 31 Dec. | 95 Sellers. |

| JAPANESE STOCKS. | FACE VALUE. | AMOUNT PAID UP. | LAST DIVIDEND. | DIVIDEND PAYABLE. | CLOSING QUOTATION. |
|---|---|---|---|---|---|
| **Bonds & Debentures.** | | | | | |
| Exchequer Bonds 2nd issue | -Y-100 | -Y-100 | 5% | March and Sept. | -Y-100.80 |
| Exchequer Bonds 3rd issue | 100 | 100 | 5% | March and Sept. | ,, 100.80 |
| Consolidated Bonds (Seiri) | 100 | 100 | 5% | June and Dec. | ,, 99.60 |
| War Bonds (Gunji) | 100 | 100 | 5% | June and Dec. | ,, 99.60 |
| Imperial 5% Bonds | 100 | 100 | 5% | March and Sept. | ,, 100.70 |
| Special 5% Bonds (issued 1906) | 100 | 100 | 5% | June and Dec. | ,, 100.20 |
| Yokohama Water Works Bonds | 100 | 100 | 6% | June and Dec. | ,, 102.00 |
| Yokohama City Public Loan Bonds | 100 | 100 | 6% | March and Sept. | ,, 103.50 |
| Osaka City Harbour Construction Bonds | 100 | 100 | 6% | June and Dec. | ,, 101.50 |
| Osaka City Public Loan Bonds | 100 | 100 | 6% | June and Dec. | ,, 101.50 |
| Kawasaki Dock Yards Co.'s Debentures | 100 | 100 | 7% | June and Dec. | ,, 101.50 |
| Tokyo Race Associations " | 500 | 500 | 30% | June and Dec. | ,, 160.00 |
| **Railways & Electric Trams.** | | | | | |
| Tokyo Railway Company, Limited | 50 | 50 | 5 2\|5% | June and Dec. | ,, 71.80 |
| Yokohama Electric Tramway Company, Limited | 50 | 50 | 6% | July and Jan. | ,, 54.00 |
| Keihin Electric Tramway Company, Limited | 50 | 50 | 6% | June and Dec. | ,, 56.00 |
| Southern Manchurian Railway Co., Ltd. | 100 | 20 | 6% | June and Dec. | ,, 44.00 |
| Hanshin Electric Tramway Co., Ltd. | 50 | 50 | 12% | May and Nov. | ,, 121.10 |
| **Cotton Spinnings.** | | | | | |
| Kanegafuchi Cotton Spinning Company, Limited | 50 | 50 | 14% | July and Jan. | ,, 104.70 |
| Fuji Gassed-yarn Company, Limited | 50 | 50 | 14% | July and Jan. | ,, 92.60 |
| Tokyo Cotton Spinning Company, Limited | 50 | 50 | 8% | July and Jan. | ,, 46.00 |
| Imperial Hemp Weaving Company, Limited | 50 | 50 | 12% | July and Jan. | ,, 69.50 |
| Nisshin Boseki Kabushiki Kaisha | 50 | 17½ | 7% | —— | ,, 13.50 |
| **Sugar & Beer Cos.** | | | | | |
| Dai-nippon Sugar Refinery Company, Limited | 50 | 50 | ...... | May and Nov. | ,, 31.50 |
| Ensuiko Sugar Refinery Company, Limited | 50 | 20 | 20% | June and Dec. | ,, 57.85 |
| Dai-nippon Beer Company, Limited | 50 | 50 | 12% | July and Jan. | ,, 84.35 |
| Kirin Brewery Company, Limited | 50 | 50 | 7% | July and Jan. | ,, 54.00 |
| **Docks & Steamships.** | | | | | |
| Yokohama Dock Company, Limited | 50 | 33 | 12% | June and Dec. | ,, 64.00 |
| Uraga Dock Company, Limited | 50 | 50 | ...... | July and Jan. | ,, 8.00 |
| Kawasaki Dockyard Company, Limited | 50 | 50 | 12½% | Feb. and Aug. | ,, 54.00 |
| Nippon Yusen Kaisha | 50 | 50 | 10% | May and Nov. | ,, 94. 35 |
| Hokkaido Tanko S. S. Company, Limited | 50 | 50 | 5% | July and Jan. | ,, 27.30 |
| **Miscellaneous.** | | | | | |
| Tokyo Electric Light Company, Limited | 50 | 50 | 12% | June and Dec. | ,, 107.60 |
| Tokyo Gas Company, Limited | 50 | 50 | 13% | July and Jan. | , 120.45 |
| Yokohama Union Electric Light Company, Limited | 50 | 50 | 14% | June and Dec. | ,, 111.50 |
| Fuji Paper Mills | 50 | 50 | 6% | June and Dec. | ,, 27.50 |
| Otaru Timber Company, Limited | 50 | 50 | ...... | March and Sept. | ,, 8.00 |
| Hoden Petroleum Company, Limited | 50 | 50 | 20% | April and Oct. | ,, 72.05 |
| Tokyo Rope Manufacturing Company, Limited | 50 | 50 | 18% | June and Dec. | ,, 112.00 |
| Japan Horse Improvement Company, Limited | 50 | 50 | ...... | March and Sept. | ,, 14.00 |
| Tokyo Stock Exchange Company | 50 | 50 | 15 1\|5% | June and Dec. | ,, 214.50 |
| Osaka Electric Light Company, Limited | 50 | 50 | 16% | July and Jan. | ,, 139.80 |
| Kobe Electric Light Company, Limited | 50 | 50 | 14% | July and Jan. | ,, 102.00 |

# BANGKOK SHARE QUOTATIONS

(Courtesy Messrs. Edwards & Co., Bangkok, Siam.) July 1, 1910

| NAME. | BUYERS. | SELLERS. | LAST SALES. | ESTABLISHED. | CAPITAL. | NO. OF SHARES. | ISSUE VALUE. | AMOUNT PAID UP. | RESERVE FUND | LAST DIVIDEND |
|---|---|---|---|---|---|---|---|---|---|---|
| Siam Electricity Co., Ltd. | Tcs. 300 | Tcs. 325 | Tcs. 325 | 1901 | £ 300,000 | 30,000 | £ 10— | £ 300,000 | Tcs. 491,338 | 12% Tcs. 4 bon. |
| Paknam Railway Co., Ltd. | ,, 200 | ,, — | ,, 220 | 1893 | Tcs. 400,000 | 5,000 | Tcs. 80 | Tcs. 400,000 | ,, 87,566 | 14% |
| Siam Tramway Co., Ltd. | ,, — | ,, — | ,, 108 | 1905 | ,, 1,450,000 | 6250 Shares<br>7250 Deb.<br>1000 P. Shares | ,, 100 | ,, 2,230,000 | ,, 1,875 | — |
| Meklong Railway Co., Ltd. | ,, 90 | ,, 100 | ,, 90 | 1907 | ,, 2,230,000 | 22,300 | ,, 100 | ,, 223,000 | ,, 28,000 | 5% |
| Bangkok Manufact. Co., Ltd. | ,, — | ,, — | ,, 132 | 1898 | ,, 400,000 | 4,000 | ,, 100 | ,, 400,000 | ,, 60,000 | 7% per for 6 months |
| Bangkok Dock Co., Ltd. | ,, — | ,, 135 | ,, 135 | 1865 | ,, 1,000,000 | 10,000 | ,, 100 | ,, 950,000 | ,, 220,000 | |
| Siam Steam Packet Co. | ,, 80 | ,, 909 | ,, 90 | 1898 | ,, 190,000 | 3,800 | ,, 50 | ,, 190,000 | ,, 34,000 | 5% |
| Siam Commercial Bank | ,, 1,000 | ,, 1,500 | ,, 1,000 | 1906 | ,, 3,000,000 | 3.000 | ,, 1,000 | ,, 3,000,000 | ,, 338,850 | 4% for 6 mos. |
| Menam Motor Boat Co. | ,, 75 | ,, 90 | ,, 90 | 1905 | ,, 200,000 | 2,000 | ,, 100 | ,, 200,000 | — | none |
| Transport Co., Motor | ,, — | ,, 75 | ,, 100 | 1906 | ,, 200,000 | 2,000 | ,, 100 | ,, 200,000 | — | — |
| Jenderata Rubber Co.* | ,, — | ,, 325— Ticals | ,, 325 (for six calls) | 1906 | £ 40,000 | 4,000 | £ 10 | £ 7.-paid | — | — |
| Bagan Rubber Co. | ,, — | ,, 100 | ,, 100 | 1907 | Tcs. 300,000 | 3,000 | Tcs. 100 | Tcs. 40 per share | — | — |
| Siam Steam Navigation Co., Ltd. | ,, 300 | ,, 325 | ,, — | 1909 | ,, 2,000,000 | 10,000 | ,, 200 | — | ,, 10,000 | — |
| Siam Stone Works, Ltd. | ,, — | ,, — | 100 | 1909 | ,, 350,000 | 3,500 | ,, 100 | ,, 350,000 | — | 6% half year |
| Kombok Rubber Co. | ,, 25 | ,, 35 | 32 | 1906 | $ 300,000 | 30,000 | $ 100 | $7, per Share | — | — |

# PHILIPPINE SHARE REPORT

July 10, 1910

| Name | When Incorporated | Authorized Capital | Issue Value of Share | No. of Shares | Subscribed | Paid up | Reserve | Working % | Date | Last Dividend | Closing Quotations |
|---|---|---|---|---|---|---|---|---|---|---|---|
| American Drug Store | 1908 | ₱ 100,000 | ₱1,000 | 100 | 40 | ₱1,000 | ...... | ₱ 5,000 | Jan. 4, 1909.. | ...... | No sellers. |
| *Banco Español Filipino | 1851 | 3,000,000 | 200 | 15,000 | 8,439 | 200 | ₱225,000 | ...... | ...... | 7% for year 1909.... | 200 buyers |
| Benguet Consolidated Mining Co | 1903 | 2,000,000 | 2 | 1,000,000 | 495,000 | 2 | ...... | 38,000 | Feb. 2, 1909.. | ...... | ₱1.00. |
| Benguet Commercial Co., Ltd | 1908 | 200,000 | 10 | 20,000 | 7,360 | 10 | ...... | ...... | ...... | 7% for year 1907 .... | ₱10. |
| Bua Mining Co | 1905 | 300,000 | 100 | 3,000 | 2,620 | 100 | ...... | 12,900 | Dec. 5 1909. | ...... | ₱100. |
| Cadwallader-Gibson Lumber Co | 1908 | 1,000,000 | 100 | 10,000 | 8,650 | 100 | ...... | ...... | ...... | ...... | No sellers. |
| *Camote-Clayton Mining Co | 1909 | 400,000 | 10 | 40,000 | 20,000 | 10 | ...... | ...... | ...... | ...... | ₱10. |
| *Compania Maritima | ...... | 1,018,000 | 200 | 5,090 | 5,090 | 200 | ...... | ...... | ...... | ...... | ₱50 sales |
| *El Varadero de Manila | ...... | 350,000 | 100 | 3,500 | 3,500 | 100 | ...... | ...... | ...... | ...... | Sellers 70 |
| Electrical Supply Co., Inc | 1909 | 100,000 | 100 | 11,000 | 500 | 72 | ...... | ...... | ...... | ...... | No sellers |
| Export & Import Lumber Co | ...... | 200,000 | 200 | 1,000 | 1,000 | 200 | ...... | ...... | ...... | ...... | No sellers. |
| *Fabrica de Hielo de Manila | 1894 | 350,000 | 50 | 7,000 | 7,000 | 50 | ...... | ...... | ...... | 18% for year 1908... | ₱75 sales. |
| *Germinal Cigar Factory | 1900 | 500,000 | 500 | 1,000 | 1,000 | 500 | ₱143,499 | 639.41 | Dec. 31, 1909 | 15% for year 1909 and 6% on capital...... | 500 sellers. |
| H. E. Heacock Co | 1909 | 100,000 | 100 | 1,000 | 800 | 100 | ...... | ...... | ...... | First year.......... | No sellers. |
| *Headquarters Mining Co. (Inc.) | 1908 | 600,000 | 10 | 60,000 | 35,000 | 10 | ...... | ...... | ...... | ...... | ₱10 buyers. |
| Insular Lumber Co | 1907 | 2,000,000 | 200 | 10,000 | 9,000 | 200 | ...... | ...... | ...... | ...... | No sellers. |
| Juan Seiboth Co., Ltd | 1908 | 150,000 | 20 | 7,500 | 500 | 20 | ...... | ...... | ...... | First year.......... | ...... |
| *La Concha Button Factory | 1905 | 75,000 | 100 | 750 | 750 | 100 | ...... | ...... | ...... | 15% for year 1909... | ₱110 sellers. |
| Lambert, Springer Co | 1908 | 200,000 | 1,000 | 200 | 80 | 1,000 | ...... | ...... | ...... | ...... | No sellers. |
| Luzon Stevedoring Co | 1909 | 250,000 | 25 | 10,000 | 4,200 | 25 | ...... | ...... | Sept 15, 1909 | 15%.......... | ₱30. |
| Mindanao Herald Publishing Co | 1907 | 15.000 | 100 | 150 | 75 | 100 | ...... | ...... | Dec. 31, 1908. | ½ of 1% interim for 1908 | No sellers. |
| Newspaper Publishing Co | 1907 | 400,000 | 100 | 4,000 | 3,740 | 100 | ...... | ...... | ...... | ...... | ...... |
| Minas Carbon de Batan | 1902 | 1,000,000 | 200 | 5,000 | 1,523 | 200 | ...... | 136,812 | ...... | ...... | 200 |
| Walter E. Olsen Co., Inc | 1909 | 500.000 | 100 | 5,000 | 2,033 | 100 | ...... | ...... | ...... | First year.......... | No sellers. |
| Paracale Gold Dredging Co | 1907 | £10,000 | £1 | 10,000 | 9,000 | £1 | ...... | ...... | ...... | ...... | No sellers. |
| Palomar Park Amusement Co | 1908 | 300,000 | ...... | 300,000 | 60,312 | .50 | ...... | ...... | ...... | ...... | ₱1.1 |
| Phil. Hemp Machine Co., Ltd | 1907 | 1,000,000 | 100 | 10,000 | 8,500 | 100 | ...... | ...... | ...... | ...... | ₱100 |
| Philippine Publishing Co | 1907 | 600,000 | 200 | 3,000 | 2,181 | 200 | ...... | ...... | Mar. 1st, 1909 | ₱3 a share for 1908.. | ₱50 |
| Port Banga Lumber Co | 1908 | 100,000 | 100 | 1,000 | 934 | 100 | None. | 40,000 | First Saturday in January.. | None.......... | No sellers. |
| The Philippine Gold Dredging Co | 1907 | 200,000 | 10 | 20,000 | 20,000 | 10 | ...... | ...... | ...... | ...... | No sellers. |
| *Philippine Co., Ltd | ...... | 750,000 | 10 | 7,500 | 7,500 | 10 | ...... | ...... | ...... | ...... | ₱5 buyers. |
| Philippine Rosin & Turpentine Co | ...... | 150,000 | 1 | 150,000 | 70,000 | 1 | ...... | ...... | ...... | First year.......... | ...... |
| Philippine Exploration Co | 1908 | 2,000,000 | 10 | 200,000 | 90,000 | 10 | ...... | ...... | ...... | ...... | ₱15 buyers |
| The Rosenstock Pub. Co | 1908 | 75,000 | 10 | 7,500 | 6,000 | 10 | ...... | ...... | ...... | ...... | No sellers. |
| *San Nicolas Iron Works | ...... | 300,000 | 500 | 600 | 600 | 500 | ...... | ...... | ...... | ...... | ₱200 sellers. |
| San Mauricio Gold Mining Co | 1908 | 4,000,000 | 200 | 20,000 | ..... | ....... | ...... | | ...... | First year.......... | ₱200. |
| Tarlac Railway Co | 1906 | 150,000 | 100 | 1,500 | 1,500 | 100 | ...... | ₱23,329 | June 30, 1908. | ...... | No sellers. |
| Union Hemp Machine Co | 1909 | 50,000 | 10 | 5,000 | 2,600 | 10 | ...... | ...... | ...... | ...... | No sellers |
| Zamboanga Cold Storage Co | 1903 | 40,000 | 100 | 400 | 200 | 100 | ₱8,500 | ...... | May 1st, 1909. | 20%.......... | ₱120. |

* John T. Macleod's share list

# PHILIPPINE BONDS

| | Dated | Authorized | Issued | Outstanding | Par Value | Rate of Int. | When payable | Last Quotation |
|---|---|---|---|---|---|---|---|---|
| Philippine Friar Land Bonds | Feb. 1st, 1904 | $7,000,000 | $7,000,000 | $7,000,000 | $ 100 | 4% | Feb. 1, 1914 | 104[illegible] |
| Public Works and Permanent Improvement Bonds | March 1, 1905 | $5,000,000 | $2,500,000 | $2,500,000 | $ 100 | 4% | March 1, 1915 | 104[illegible] |
| Do. | Feb. 1, 1906 | ...... | $1,000,000 | $1,000,000 | $ 100 | 4% | Feb. 1, 1916 | 104[illegible] |
| Manila Sewer and Water Works Improvement Bonds | June 1, 1905 | $4,000,000 | $1,000,000 | $1,000,000 | $ 100 | 4% | June 1, 1915 | 104[illegible] |
| Do. | Jan. 2, 1907 | ...... | $2,000,000 | $2,000,000 | $ 100 | 4% | Jan. 2, 1917 | 104[illegible] |
| Philippine Railway First Mortgage Four per cent Thirty Year Sinking Fund Gold Bonds | July 1. 1907 | $15,000,000 | $5.736,000 | $5,736,000 | $1000 | 4% | July 1, 1937 | 97 |

*Payment of interest guaranteed until maturity or redemption by the Philippine Government.

## Professional Cards


**CEMENT TESTS**

Made according to the latest British Standard Specification, or to any other, as required : : : :

**COAL TESTS**

Ordinary tests. Caloriphic value. Elementary analysis

MINING INSTITUTE AND ANALYTICAL LABORATORY

**Dr. LIVIO SILVA**

EXAMINATIONS AND REPORTS FOR FINANCING

CABLE ADDRESS: "YOUNGENG" NEW YORK

**C. G. Young**

Engineering and Construction, Steam and Electric Railways, Public Utilities and Industrials, REPORTS for FINANCING.

IN ANY PART OF THE WORLD -:- SIXTY WALL ST., NEW YORK

# ALPHABETICAL LIST OF ADVERTISERS

American Asiatic S. S. Co.......... 31
Anderson & Co., Wm. H............ 39
Anderson, Meyer & Co............. 30
Arnhold Karberg & Co............. 19
Astor House Hotel Co............. Cover
Atlantic, Gulf & Pacific Co.......... 27
Baldwin Locomotive Works ...... 32
Banco Español Filipino........... Cover
Bell, David W..................... 18
Bohler Bros & Co.................. 41
Brighten, Malcolm & Co., Ltd..... 55
British American Tobacco Co., Ltd. 85
Cadwallader-Gibson Lumber Co.. 28
California-Manila Lumber Co..... 21
Carmichael & Clarke.............. 10
Chee Hsin Cement Co., Ltd........ 40
China Import Export Lumber Co. 49
China Merchants Steam Nav. Co.. 54
China Mutual Life Insurance Co.. 50
China and Manila S. S. Co.......... 31
Chinese Eng. & Mining Co......... 4
Chinese Eastern Railway......... 16
Cia. General de Tabacos Filipinas. 36
Cia. Trasatlantica ................. 35
Clarke, M. A....................... 42
Cook's Sons, Adam................. 6
Defiance Machine Works.......... 20
Derham Bros ...................... 23
Deutsch-Asiatische Bank.......... 1
Dickeson, Jones & Co............. 41
Dollar, Robert & Co............... 55
Earnshaw, M. & Co., Inc .......... 7
East Asiatic Dredging Co.......... 27
Eastern Engineering Co .......... 49
Export and Import Lumber Co ... 23
Fearon, Daniel & Co............... 13-30
Fairbanks Morse & Co............. 61
Ferro Machine & Foundry Co..... 29
Fox Typewriter..................... 33
Fressel, C. & Co.................... 61
Fushun Coal....................... 3
Gardner Governor Co............. 32
Gas Engine & Power Co. and Charles L. Seabury & Co. Consolidated 28
General Electric Co... ........... 20
Germann & Co., Ltd.............. 57
Germinal Cigar Factory........... 35
Gordon & Co....................... 52
Grand Rapids Gas Engine & Yacht Co......................... 29
Gray Motor Co..................... 29
Green Island Cement Co., Ltd..... 38
Greilsammer Bros.................. 24
Han-yeh-Ping Iron & Coal Co. Ltd. 59
Hanyang Iron & Steel Works...... 59
Harvey, Stuart S. ................. 43
Hongkong Rope Mfg. Co., Ltd..... 31
Hongkong & Shanghai Banking Corp............................. Cover
Hongkong & Whampoa Dock Co, Ltd............................... 10
Honolulu Iron Works Co......... 58
Hotel de France................... 49
Hupeh Cement Co................. 40
Imperial Hotel, Ltd................ 52
International Correspondence Schools........................... 13
Insular Lumber Co................ 24
International Cold Stores, Ltd .... 41
International Banking Corp....... Cover
Jardine, Matheson & Co............ 25
Kawasaki Dockyard Co. Ltd...... 7
Kiangnan Dock & Engineering Works............................. 8
La Parisien Carriage Factory...... 34
Lambert-Springer Co.............. 62
Lodge & Shipley Machine Tool Co. 27
Malthoid.......................... 62
Melchers & Co..................... 48
McGregor, Samuel & Co........... 55
Mitsu Bishi Dockyard & Eng. Works............................. 6
Mitsui Bussan Kaisha............. 5-45
Morse & Son, A. J................. 70
New Metropole Hotel.......... .... 50
New Engineering and Shipbuilding Works, Ltd..... .............. 11
Nicholson, C. S.................... 6
Nippon Yusen Kaisha ............ 58
North British Locomotive Co. Ltd. 47
Olsen & Co., Walter E............ Cover
Pacific Mail S. S. Co............... 37
Pacific Tank and Pipe Co......... 62
Paraffine Paint Co................. 62
Penberthy Injector Co............ 32
Philippine Islands ................ 2
Pickett Harness Co ............... 34
Port Banga Lumber Co........... 24
Racine, Ackermann & Co.......... 39
Remington Typewriter Co......... 83
Rose, Downs & Thompson, Ltd.... 44
Russo-Chinese Bank .............. 1
San Miguel Brewery.. ............. 52
Santa Mesa Rope Works........... 13
Schuchardt & Schütte, Berlin..... 53
Shanghai Dock & Eng. Co., Ltd... 12
Shanghai Electric and Asbestos Co., Ltd ........................ 44
Shanghai Gas Co., Ltd............. 28
Shanghai Nanking Railway....... 15
Shanghai Machine Co............. 26
Shanghai Waterworks Co. Ltd..... 50
Shewan, Tomes & Co.............. 46
Siemens Schuckert................ 17
Siemssen & Co..................... 22
Southern Pacific Co.......... ..... 37
South Manchuria Railway Mining Dept.............................. 8
South Manchuria Railway........ 14
Stevenson & Co., Ltd., W. F........ 10
Strong, Frank L................... 43
Superior Wrench Co.............. 29
Swift & Co......................... 32
Taikoo Dockyard and Engineering Company of Hongkong, Ltd...... 9
Thompson F. H ............. 49
Toyo Kisen Kaisha.... ............ 29
Truscott Boat Mfg. Co............ 50
Trussed Concrete Steel Co.... .... 33
United States Steel Products Export Co ............... ......... 56
Vander Loo & Co. F. A............ 51
Victorian Government Agency... 1
Vulcan Iron Works................ 29
Vulcan Iron Works Ltd........... 18
Warner Barnes & Co., Ltd.......... 21
Wen Ming Press................... 26
White & Co. (Inc.), J. G............ 53
Westinghouse Brake Co., Ltd.... 58
Wood Waste Distilleries Co....... 41
Woosung Car Shops............... 51
Worthington, Henry R............ 20
W. T. Henley's Telegraph Work Co., Ltd.......................... 18
Ynchausti & Co ................... 34
Yokohama Specie Bank.......... 1
Young, C. G........................ 69

## Classified Advertisers' Directory

*(Please mention this journal)*

**AGRICULTURAL IMPLEMENTS**
Anderson & Co., W. H.
Germann & Co., Ltd.

**ALCOHOL DISTILLERS**
Cia. General de Tabacos de Filipinas.
Ynchausti & Co.
Wood Waste Distilleries Co.

**ASBESTOS GOODS**
Shanghai Electric & Asbestos Co., Ltd.

**BANKS**
Deutsch-Asiatische
Hongkong and Shanghai Banking Corp.
International Banking Corp.
Banco Español Filipino
Russo-Chinese Bank
Yokohama Specie Bank, Ltd.

**BOILER MAKERS**
Babcock & Wilcox (D. W. Bell)

**BOILERS (PATENT WATER TUBE STEAM)**
General Electric Co.
Jardine Matheson & Co.

**BREWERIES**
San Miguel Brewery

**BRIDGE-BUILDERS**
Atlantic, Gulf and Pacific Co
White & Co., Inc., J. G.

**BROKERS, GENERAL**
C. S. Nicholson

**BUILDING MATERIALS**
California-Manila Lumber Com. Co.
Malthoid Paraffine Paint Co.
W. H. Anderson & Co.
Samuel McGregor & Co.

**CABLES, TELEPHONE, TELEGRAPH SUPPLIES**
David W. Bell
Brighten, Malcolm & Co., Ltd.
W. T Henley's Telegraph Works Co., Ltd.
Melchers & Co.

**CEMENT**
Anderson & Co., W. H.
Chee Hsin Cement Co., Ltd.
Chinese Engineering and Mining Co., Ltd.
Green Island Cement Co.. Ltd.
Racine, Ackermann & Co.

**CIGAR AND CIGARETTE MANUFACTURERS**
Castle Bros.-Wolf & Sons
Cia. Gral. de Tabacos de Filipinas
Germinal Cigar Factory
Olsen & Co., Walter E.

**CIVIL ENGINEERS**
Eastern Eng. Co.
C. G. Young

**COAL DEALERS**
Chinese Engineering and Mining Co., Ltd.
The Mitsui Bussan Kaisha
South Manchuria Railway Co.
The Han-Yeh-Ping Iron & Coal Co. Ltd.

**COAL HANDLING MACHINERY**
Atlantic, Gulf & Pacific Co.

**COFFEE DEALERS (WHOLESALE)**
M. A. Clarke (Mayon)

**CONTRACTORS, (GENERAL)**
Atlantic, Gulf and Pacific Co.
Bohler Bros. & Co.
Brighten, Malcolm & Co., Ltd.
Frank L. Strong
Germann & Co., Ltd.
Gordon & Co.
Lambert-Springer Co.
Siemssen & Co.
White, & Co. Inc., J. G

**CONTRACTORS, ELECTRICAL**
Arnhold, Karberg & Co.
Germann & Co., Ltd.
Shanghai Electric & Asbestos Co., Ltd.
Shewan Tomes & Co.
Frank L. Strong
Siemens Shuckert
Siemssen & Co.

**CONSULTING ENGINEERS**
Atlantic, Gulf & Pacific Co.
Carmichael & Clarke.
Germann & Co., Ltd.
White & Co., Inc. J. G.
C. G. Young

**DIVING APPARATUS**
A. J. Morse & Son

**DREDGERS**
Dickeson, Jones & Co.
Melchers & Co.
Rose, Downs & Thompson, Ltd.

**DRY CELLS**
T. H. Thompson.

**EDUCATIONAL**
I. C. S. Correspondence Schools.

**ELECTRIC LIGHTING PLANTS**
Anderson Meyer & Co.
Arnhold, Karberg & Co.
Brighten, Malcolm & Co., Ltd,
Fearon, Daniel & Co.
General Electric Co.
Germann & Co., Ltd.
Siemens Shuckert
Siemssen & Co.
Shewan, Tomes & Co.

**ELECTRICAL SUPPLIES**
Anderson Meyer & Co.
Arnhold Karberg & Co.
Jardine, Matheson & Co.
Babcock & Wilcox (D. W. Bell)
Belliss & Morcom (D. W. Bell)
Fearon, Daniel & Co.
General Electric Co.
Melchers & Co.
Shanghai Electric & Abestos Co. Ltd.
Shewan, Tomes & Co.
Siemens Shuckert
Siemssen & Co.

**ENGINES (PUMPING)**
Belliss & Morcom (D. W. Bell)
Siemssen & Co.

**EXCAVATORS AND ELEVATOR**
Dickeson, Jones Co.
Rose, Downs & Thompson, Ltd
Siemssen & Co.

**EXPLOSIVES**
Jardine Matheson & Co., Ltd

**FIBRE MACHINERY**
Dailey, C. E.

**FOOD PRODUCTS**
Anderson & Co., W. H.
Swift & Co.

**GAS. ENGINES**
Fairbanks, Morse & Co.
Castle Bros.-Wolf & Sons
Shanghai Gas Co., Ltd.
Truscott Boat Mfg. Co.
Melchers & Co.

**HARDWARE**
Springer-Lambert Co.

**HARNESS MANUFACTURERS**
Pickett Harness Co.

**HOTELS**
Astor House Hotel Co.
Hotel des Colonies
Hotel de France
Tokyo Imperial Hotel
Melchers & Co.
New Metropole Hotel

**ICE MACHINERY**
Vulcan Iron Works
Melchers & Co

**INJECTORS**
Penberthy Injector Company.

**INSURANCE**
Stevenson & Co., Ltd., W. F.

**JOURNALS, SCIENCE**
The Philippine Journal of Science

**LIFE INSURANCE**
China Mutual Life Insurance Co., Ltd.
Shanghai Life Insurance Co., Ltd.

**LITHOGRAPHERS**
The Wen Ming Press.

**LUMBER DEALERS**
Cadwallader-Gibson Lumber Co.
California-Manila Lumber Com. Co.
Export and Import Lumber Co.
Insular Lumber Co.
Jardine, Matheson & Co.
Port Banga Lumber Co.

**MACHINERY MERCHANTS**
Anderson, Meyer & Co.
Arnhold Karberg & Co.
Shanghai Machine Co.
Fearon, Daniel & Co.
Frank L. Strong
Stuart S. Harvey
Siemssen & Co.
Schuchardt & Schutte.

**MARINE ENGINES**
Fairbanks Morse & Co.
Truscott Boat Mfg. Co.
Grand Rapids Gas, Engine & Yacht Co.

**MILL MACHINERY**
Rose, Downs & Thompson Ltd.

**MINING MACHINERY**
Atlantic, Gulf & Pacific Co.
Germann & Co., Ltd.
Melchers & Co.
Shewan, Tomes & Co.
Siemssen & Co.

**MINING COMPANIES**
Chinese Engineering & Mining Co.
South Manchuria Railway Co.
Mitsui Bussan Kaisha

**MOTORS**
Grand Rapids Gas, Eng. & Yacht Co.
The Gray Motor Co.
The Ferro Machine & Foundry Co.

**MOTOR LAUNCHES**
Earnshaw, M. & Co.
Gas Engine & Power Co. and Charles L. Seabury & Co. (Consolidated)
Fairbanks, Morse & Co.

**OFFICE FURNITURE**
Cadwallader-Gibson Lumber Co.

**PAINTS OILS AND VARNISH**
F. A. Vander Loo & Co.
Lambert-Springer Co.
Shanghai Electric & Asbestos Co., Ltd.
Adam Cook's Sons

**PULLEYS (STEEL)**
Schuchardt & Schütte

**PUMPS**
Shewan, Tomes & Co.
Jardine Matheson & Co.
Henry R. Worthington.
Shanghai Machine Co.
The Gardner Governor Co.

**RAILROADS**
Chinese Eastern
Shanghai-Nanking.
South Manchuria
Southern Pacific Co.

**RAILROAD SUPPLIES**
Anderson, Meyer & Co.
Arnhold Karberg & Co.
Brighten, Malcolm & Co., Ltd.
Fearon, Daniel & Co.
Jardine, Matheson & Co., Ltd.
Mitsui Bussan Kaisha
Siemssen & Co.
Westinghouse Brake Co., Ltd.
Shewan Tomes & Co.
Shanghai Machine Co

**REINFORCED CONCRETE CONSTRUCTION**
Trussed Concrete Steel Co.

**ROOFING PAPER**
Malthoid

**ROPE MANUFACTURERS**
Hongkong Rope Mfg. Co., Ltd.
Santa Mesa Rope Works.
Ynchausti & Co.

**SANITARY ENGINEERING**
Gordon & Co.
Lambert-Springer Co.
Shanghai Waterworks Co., Ltd.

**SAW MILLS**
Export and Import Lumber Co.
Insular Lumber Co.
Jardine, Matheson & Co.
Cadwallader-Gibson Lumber Co.
Port Banga Lumber Co.

**SERUM**
Bureau of Science

**SHIP-CHANDLERY**
Ynchausti & Co.

**SHIPPING AGENTS**
Castle Bros.-Wolf & Sons
Cia. General de Tabacos
Shewan, Tomes & Co.
Stevenson & Co., Ltd.
Warner, Barnes & Co., Ltd.

**SHIPBUILDING AND REPAIRS**
Gas Engine & Power Co. and Charles L. Seabury & Co. (Consolidated)
Hongkong & Whampoa Dock Co., Ltd.
The Kawasaki Dockyard Co. Ltd.
Kiangnan Dock and Engineering Co., Ltd.
Mitsu Bishi Dock and Engineering Works
New Engineering and Shipbuilding Works, Ltd.
Shanghai Dock and Engineering Co., Ltd.
The Taikoo Dockyard and Engineering Company of Hongkong, Limited
Earnshaw, M. & Co.
Vulcan Iron Works, Ltd.

**STEAMSHIP COMPANIES**
American Asiatic S. S. Co.
China and Manila S. S. Co., Ltd.
China Merchants Steam Nav. Co.
Cia. General de Tabacos
Nippon Yusen Kaisha
Occidental and Oriental S. S. Co.
Pacific Mail S. S. Co.
Toyo Kisen Kaisha S. S. Co.
Transatlantica S. S. Co.
Ynchausti & Co.

**STEEL MANUFACTURERS**
United States Steel Products Export Co.

**STEEL WORKS**
Bohler Bros. & Co.
The Han-Yeh-Ping Iron and Coal Co. Ltd.
Hanyang Iron & Steel Works.

**STRUCTURAL STEEL**
Bohler Bros. & Co.
A. Gulf & Pacific Co.

**SUGAR MACHINERY**
Honolulu Iron Works.

**TANKS**
Atlantic, Gulf & Pacific Co.
Pacific Tank and Pipe Co.
Shanghai Dock & Engineering Co., Ltd.

**TILES AND BRICKS**
C. Fressel & Co.
Green Island Cement Co., Ltd.
Chinese Eng. Mining Co.

**TOBACCO DEALERS**
British American Tobacco Co., Ltd
Cia. General de Tabacos
Olsen & Co., Walter E.

**TOOLS**
Lodge & Shipley Machine Tool Co.
Shanghai Machine Co.
Lambert-Springer Co.

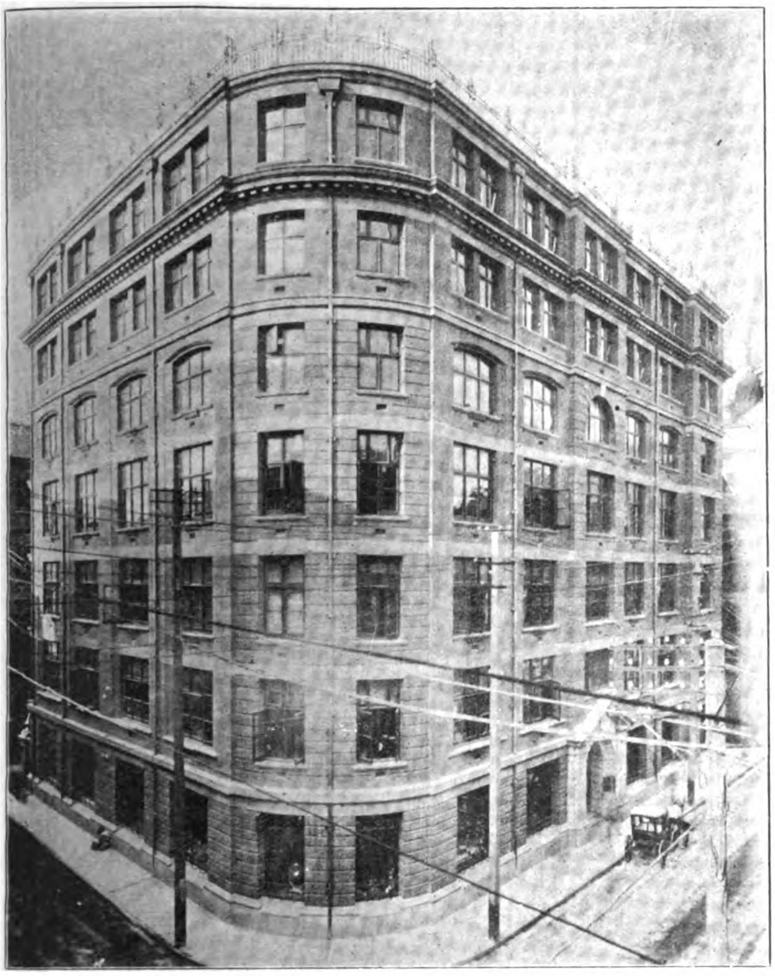
**TYPEWRITERS**
The Fox Typewriter
Remington Typewriter Co.

**WINDMILLS**
Fairbanks, Morse & Co.

**WOOD WORKING**
Defiance Machine Works.

J. J. CHOLLOT
INGENIEUR DES PONTS ET CHAUSSEES
CIVIL ENGINEER, SURVEYOR AND ARCHITECT
53 QUAI DU YANG-KING-PANG, SHANGHAI

A. J. MORSE & SON, INC.
221 High St., Boston, Mass., U. S. A.
ESTABLISHED 1837
DIVING APPARATUS
Special Apparatus built to order
FRANK L. STRONG, Agent -:- 24 Calle Echague, Manila, P. I.



ARNHOLD, KARBERG & CO.'S New Building, Kiukiang and Szechuen Roads, Shanghai, "Kahn" System of Reinforced Concrete Bars Employed in Construction

# KAHN SYSTEM

## OF REINFORCED CONCRETE

The modern way of building—Fireproof and Enduring—Costs nothing for maintenance and lasts forever.

Over 2500 *Kahn System* structures in all parts of the world—including Factories, Warehouses, Stores, Office Buildings, Hotels, Public Buildings, Bridges, Viaducts, Tunnels, Reservoirs, etc.—Over 50 important buildings for the United States Government.

Experts agree that reinforced concrete is the best building material for resisting earthquakes.

*Kahn System* controls exclusively:

**KAHN TRUSSED BARS**—for reinforcing concrete beams, girders and floors.

**RIB METAL**—for reinforcing slabs, walls, sewers and conduits.

**HY-RIB**—A self-centering reinforcement for floors and roofs. A unit of lath and studs for walls and partitions.

**RIB-LATH**—The best steel lath for plastering and stucco work.

**"TRUS-CON" CHEMICAL PRODUCTS**—for finishing and water-proofing concrete.

Our Engineering Department will be glad to assist you with designs and estimates.

Separate catalogues showing structures of every kind, giving detailed methods of design and describing our various *Kahn System* products.

## Trussed Concrete Steel Company

**HEAD OFFICE DETROIT, MICH., U. S. A.**

***Eastern Agencies:***

*PHILIPPINE ISLANDS*—California-Manila Lumber Commercial Co. Room 10, Lack & Davis Bldg., Manila, P. I.

*CHINA*—Arnhold, Karberg & Co., Hongkong, Canton, Newchwang, Tsingtau, Shanghai, Tientsin.

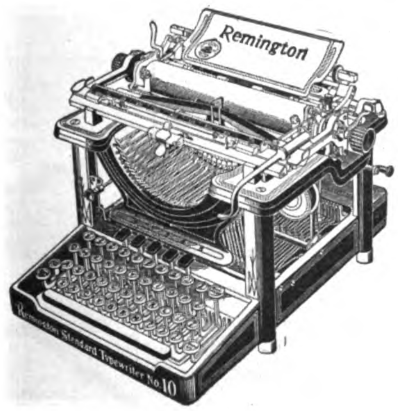
*JAPAN*—American Trading Co., Yokohama and Kobe.

*HAWAIIAN ISLANDS*—Honolulu Iron Works Co., Honolulu, T. H.

*The Development of the*

# Remington

*is the History of the Writing Machine*




## 10 AND 11 NEW MODELS NOW READY

**Model 10, with Column Selector**
**Model 11, with Built-in Tabulator**

## Remington Typewriter Company

(INCORPORATED)

**New York and Everywhere**

McAlister & Co. Ltd., Singapore.
E. C. McCullough & Co., Manila.
Mustard & Co., Shanghai.
E. H. Tuska, Kobe and Yokohama.

# THE FOX VISIBLE TYPE-WRITER

The STANDARD TYPEWRITER of the WORLD

**THE ONLY VISIBLE TYPEWRITER** having the strength, solidity, and durability of the best blind machines.

The **FOX** is the Typewriter that compelled every other typewriter manufacturer to get out a visible model—or go out of business.

The **FOX** has every improvement and attachment of the highest grade typewriter.

It combines "The good of the old with the best of the new."

**AGENTS WANTED**

We offer the Standard Typewriter, Exclusive Territory, very liberal conditions, and every possible assistance to our representatives.

Write for free illustrated catalog and circulars

## FOX TYPEWRITER CO.

970-990 FRONT STREET GRAND RAPIDS, MICH., U.S.A.

FEARON, DANIEL & CO., Shanghai, Agents for China

CABLE ADDRESS: "PICKETT" | CODES: WESTERN UNION, UNIVERSAL | TELEPHONE: 1041

## HARNESS

We have the only Modern Harness Manufacturing Plant in the Far East, and have studied Oriental needs for ten years.

We make harness to fit horses of any size suited either for Driving or Draft purposes and only the best American leather is used.

We have a complete stock of the latest patterns in Smart Harness and are equipped to fill the largest order to the satisfaction of the trade.

We have made harness for the Philippine Government for the last decade.

We carry in stock the best makes of English and American riding saddles.

We are sole agents for "Eglentine" Metal Bits, Stirrups, Spurs, etc.

*Far Eastern Dealers Should Write for Our Catalogue and Wholesale Prices*

## PICKETT HARNESS CO.

MANILA, P. I.

## "LA PARISIEN" CARRIAGE MANUFACTORY

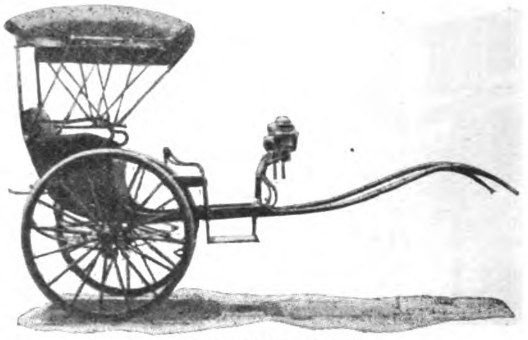
Telephone 520 | 340 CALLE PALACIO | Manila, P. I.

P. O. Box 890

*Manufacturers of all Classes of Vehicles*

We Use The Famous
"GUIJO DE SAN MATEO"
Only the Very Best Materials,
AMERICAN AND FRENCH

**Goodyear Rubber Tires**



BLANCO TRILL Y CIA.

## YNCHAUSTI & Co.

PURE MANILA ROPE

TANDUAY DISTILLERY—HEMP AND SUGAR MERCHANTS

IMPORTERS AND EXPORTERS

OWNERS OF HEMP AND SUGAR ESTATES

SHIP CHANDLERS, DIRECT IMPORTATION

BRANCHES IN ILOILO, SORSOGON, GUBAT AND MATNOG

BALUT PURE MANILA ROPE FACTORY

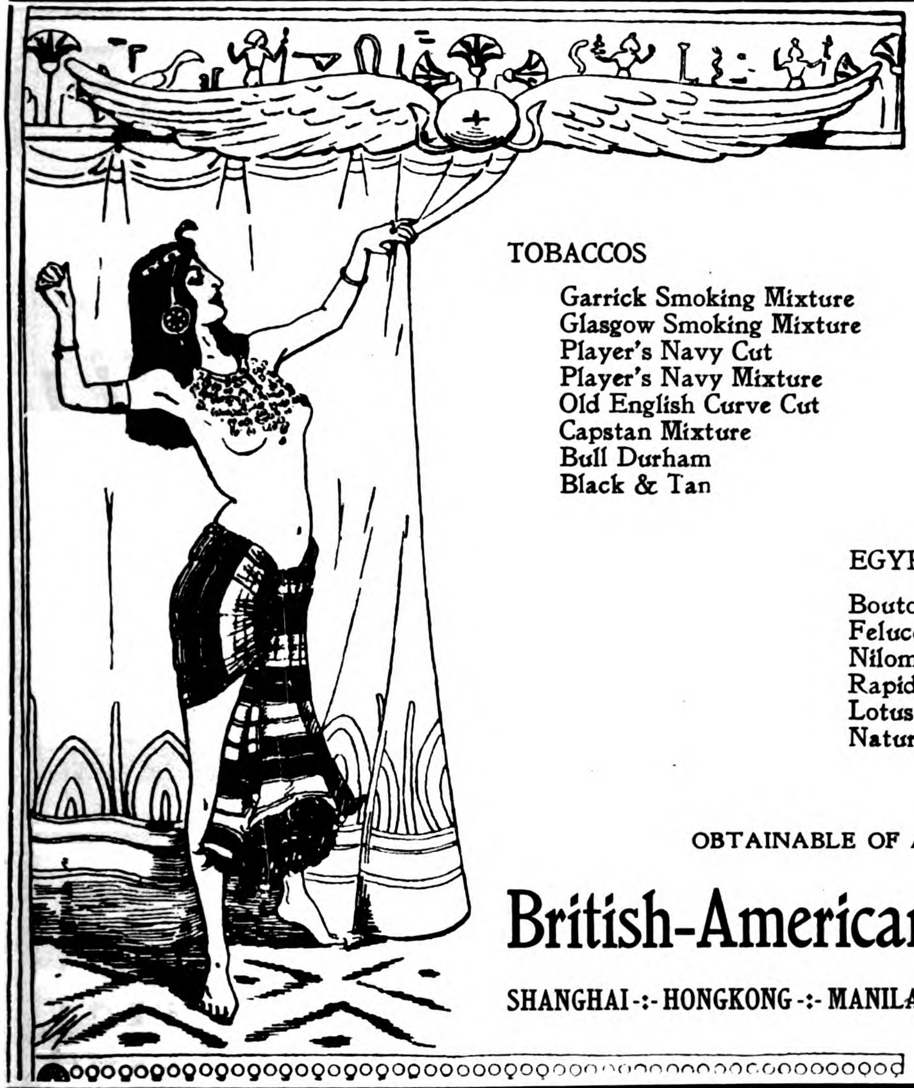
MANILA, P. I.

SHIP OWNERS AND CONSIGNEES

*Steamers:—*
SORSOGON, VIZCAYA, ANTONIO MACLEOD, VENUS, ELCANO, CHURRUCA, F. PLEGUEZUELO, CHICAGO, MAYON

ILOILO SUGAR MERCHANTS

FOUNDERS AND MACHINISTS



THE

*World's Best Products*

TOBACCOS

Garrick Smoking Mixture
Glasgow Smoking Mixture
Player's Navy Cut
Player's Navy Mixture
Old English Curve Cut
Capstan Mixture
Bull Durham
Black & Tan

VIRGINIAN CIGARETTES

Three Castles
Capstan Navy Cut
Sweet Caporal
Crosscut
Garrick, Gold Tipped
Garrick, Plain
Golden Honey Dew

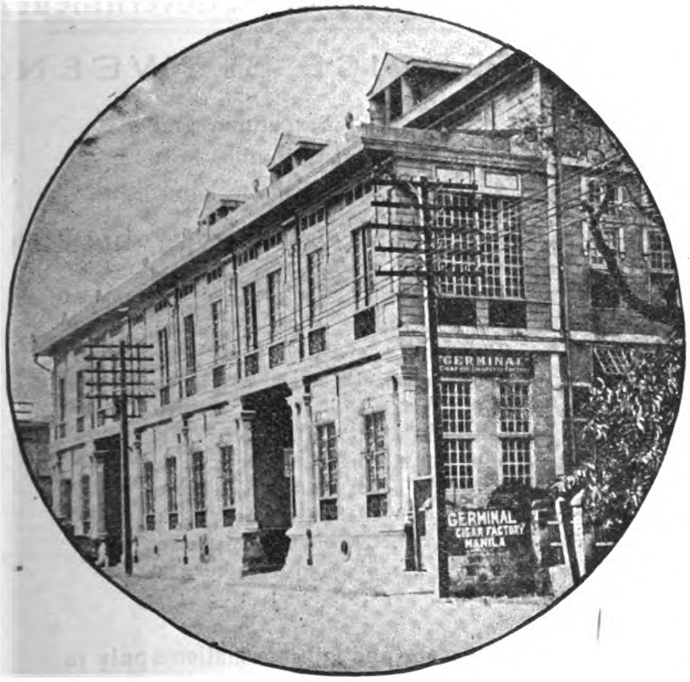
EGYPTIAN CIGARETTES

Bouton Rouge
Felucca
Nilometer
Rapido
Lotus
Natural

OBTAINABLE OF ALL DEALERS AND AT DEPOTS OF

**British-American Tobacco Company, Ltd.**

SHANGHAI -:- HONGKONG -:- MANILA -:- SINGAPORE -:- BANGKOK -:- COLOMBO -:- CHEMULPO




# "GERMINAL"

## Cigar and Cigarette Factory

4 Calle Marques de Comillas, Manila, P. I.

FOR A MILD CIGARETTE SMOKE TRY THE "FLOREAL"

GERMINAL MANILA
TRADE MARK

GERMINAL CIGARS THE UNIVERSAL FAVORITE

This means the approval of discriminating critics; and shows an appreciation of the delicious richness of the choicest tobacco leaf, the exquisite aroma of an original blend, the finished touch throughout of an expert's hand - - - - - - - - -

# "FLOREAL" Cigarettes

"floreal"
TRADE MARK

TELEGRAPHIC ADDRESS: "TABACALERA"

HEAD OFFICE BARCELONA

# COMPANIA GENERAL DE TABACOS DE FILIPINAS

**Established in 1882.** **Capital: £3,000,000**

Shipping Department, 63 Escolta.

—

Manila General Office, Calzada Marques de Comillas.

—

Retail Store, 63 Escolta.

BRANCHES AND AGENCIES

—

In the principal cities of the world and towns of the Philippines

—

Proprietors of the celebrated factories

## "La Flor de la Isabela"

High grade cigars manufactured with the most selected leaf grown in the estates of the Company.

SPECIAL BRANDS:

Pig's tails, Vegueros Especiales, Regalia A. Lopez, Regalia G. Pereire, Favoritos A. Lopez, Favoritos A. Correa, Perfectos Especiales, Exquisitos, Reina Victoria, etc.

**Excellent common brands.**

## "La Clementina"

Alcohol Manufactures—Gin—Distilled Spirits

**GENERAL IMPORTERS AND EXPORTERS**

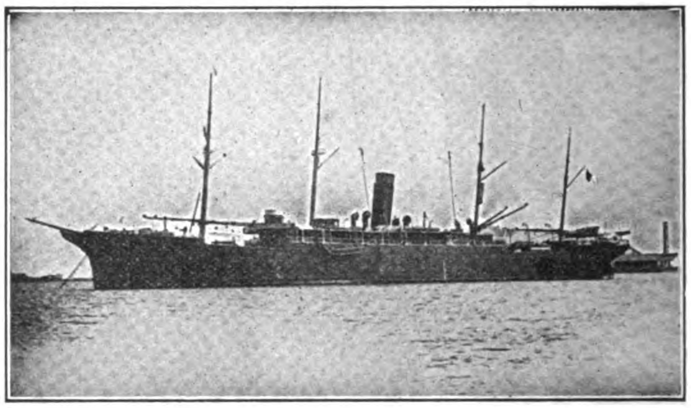
## INTERISLAND STEAMERS

Under Government Contract and Inspection. Electric Light. First Class Accommodation

**FAR EASTERN BRANCH AGENCIES:**

| | |
|---|---|
| YOKOHAMA............ | 240 Settlement. |
| SHANGHAI............ | J. DELBOURGO, 29 Rue du Consulat. |
| HONGKONG............ | A. R. MARTY, 2 Pedder-st. |

# *Spanish Royal Mail*



S. S. ANTONIO LOPEZ

# C.IA TRANSATLANTICA

## Late Lopez & Co.

Under Contract with R. C. M. Government

DIRECT SERVICE BETWEEN

Manila, Singapore, Barcelona and Liverpool. Calling at Colombo, Port Said, Genoa, Cadiz, Lisbon, Vigo.

**Regular passenger and freight service between**

Manila, Singapore, Colombo, Suez, Port Said, Genoa, Barcelona, Valencia, Cadiz, Lisbon, Vigo, Coruna and Liverpool. Regular monthly service between Barcelona, Cadiz, New York, Cuba and Mexico. Through tickets from Manila to New York with change of steamer at Barcelona or Cadiz. Through bill of lading to all European ports and to Atlantic Coast Ports of U. S. A. Cargo for Naples transhipped at Genoa and for London and Hamburg at Liverpool : : : : : : : : : : :

For freight and passage and full information apply to

AGENT DE LA

## COMPANIA TRANSATLANTICA

Plaza Moraga No. 9 Manila, P. I.

# THE SEMI-TROPICAL ROUTE

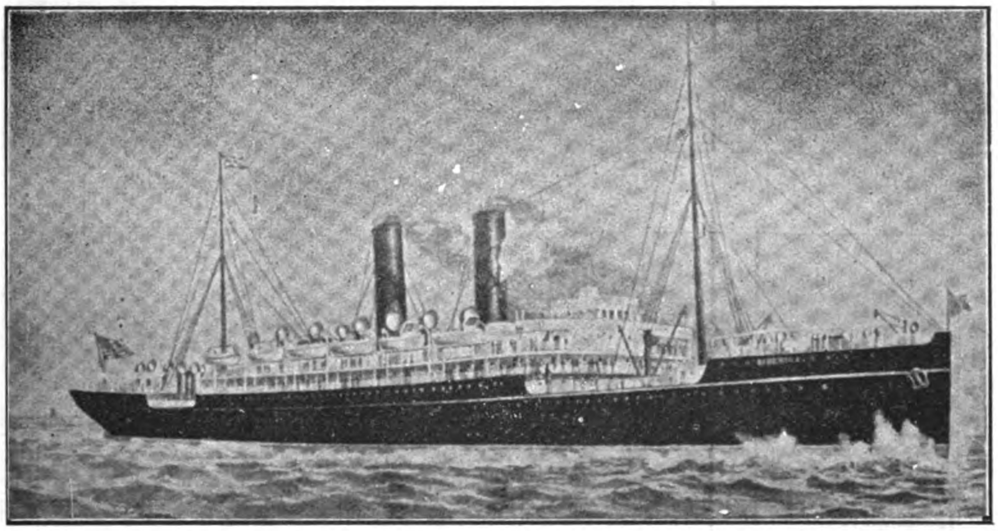
**PACIFIC MAIL STEAMSHIP COMPANY**

**TOYO KISEN KAISHA**

DIRECT SERVICE BETWEEN SAN FRANCISCO AND THE FAR EAST

SAN FRANCISCO
HONOLULU
YOKOHAMA
KOBE
NAGASAKI
SHANGHAI
HONGKONG
MANILA

A. M. GARLAND
FREIGHT TRAFFIC MANAGER
A. G. D. KERRELL
GENERAL PASSENGER AGENT



MANCHURIA
MONGOLIA
KOREA
SIBERIA
CHINA
ASIA
TENYO MARU
CHIYO MARU
NIPPON MARU

GENERAL OFFICE,
"FLOOD BUILDING"
SAN FRANCISCO, CAL.

SIBERIA—Transpacific Record 10 days 10 hrs. (Yokohama-San Francisco)

FEATURES OF THE LINE:—Southern route; passengers enjoy outdoors throughout; deck bathing. The call at Honolulu, Oahu, the most fertile and beautiful Island of the Pacific. The only line to San Francisco, the greatest port of the Pacific.

Castle Bros.-Wolf & Sons, Agents, Manila, P. I.



# SAN FRANCISCO TO THE EAST

*The Overland Limited*

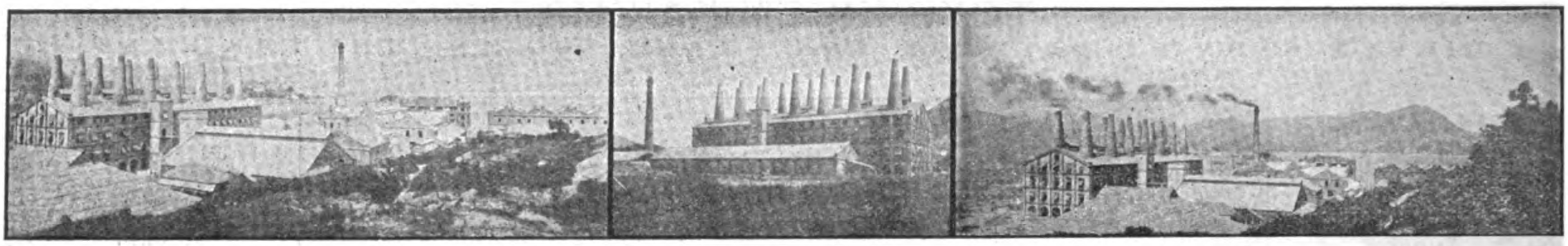
**Electric-lighted parlor sleeping cars, combination buffet-library and drawing-room observation cars. Diner all the way**

*The Last Word in Luxurious Travel*

**Over the scenic route and straight across the Great Salt Lake by way of Lucin-Ogden cut-off, a wonderful triumph of modern engineering**

# SOUTHERN PACIFIC

# GREEN ISLAND CEMENT

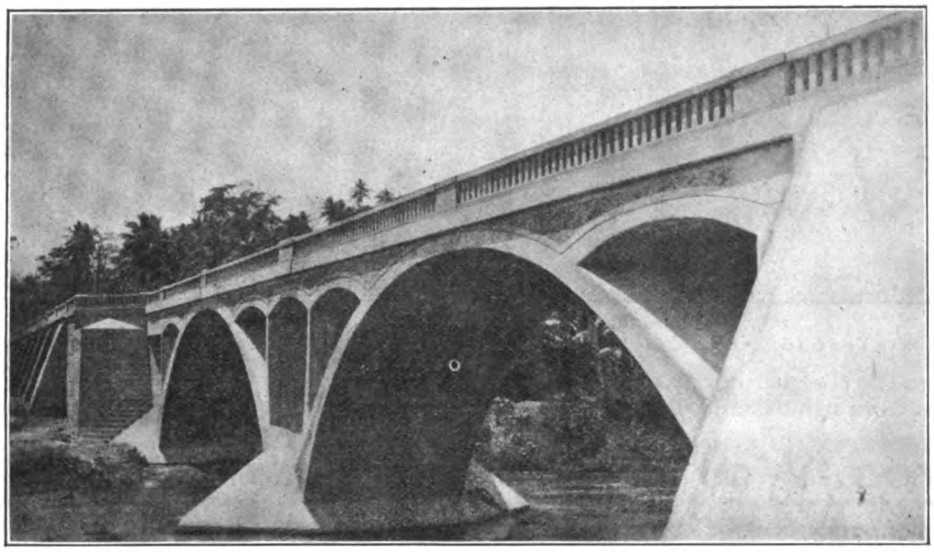


WORKS OF THE GREEN ISLAND CEMENT COMPANY, LIMITED, HONGKONG

Glazed
Stoneware

---

House
Drain
and
Sewer Pipes
and
Fittings
In Stock



PARABOLIC ARCH BRIDGE, ALBAY—2500 BARRELS OF GREEN ISLAND CEMENT USED IN ITS CONSTRUCTION

Glazed
Paving
Bricks
and
Tiles

---

Fire
Bricks
and
Fire
Clay

**Agents:**

WM. H. ANDERSON & CO.
MANILA, P. I.

SHEWAN, TOMES & CO.
SHANGHAI

SHEWAN, TOMES & CO.
JAPAN

TURNER, MORRISON & CO
CALCUTTA

**Agents:**

GEO. GILLESPIE & CO.
RANGOON

E. SPINNER & CO.
BOMBAY

SHEWAN, TOMES & CO.
TIENTSIN

McALISTER & CO., LTD.
SINGAPORE, PENANG

SANTA CRUZ BRIDGE

# WM. H. ANDERSON & CO.

MANILA, P. I.

IMPORTERS AND EXPORTERS: COMMISSION AGENTS

AGENTS IN THE PHILIPPINES FOR

| | | | |
|---|---|---|---|
| GREEN ISLAND CEMENT COMPANY | LIBBY, McNEILL & LIBBY | DIEBOLD SAFES | GLAZED SEWER PIPE |
| HONGKONG ROPE MFG. CO. | SWIFT & COMPANY | AERMOTOR COMPANY | FIRE BRICK, FIRE CLAY |
| FARM AND ROAD WAGONS | BRUNSWICK-BALKE COLLENDER CO. | LUBRICATING OILS | RUBEROID ROOFING |

*Use Dragon Brand for Highclass Solid and Enduring Construction*

GENERAL AGENTS FOR CHINA

# *RACINE ACKERMANN & CO.*

*NO. 4 YANG-KING-PANG, SHANGHAI*

**THE CHEE HSIN CEMENT CO., LTD.**

**TANGSHAN PORTLAND CEMENT**

In barrels of 375 lbs. (170 kg.) net

Tangshan Portland Cement manufactured of the best raw material at our new extensive works which have recently been erected and equipped with the newest and most up-to-date machinery, flint-mills, rotary-ovens, etc., etc., is of superior quality and

**EQUAL TO THE BEST EUROPEAN BRANDS**

Awarded Silver Medal at St. Louis Exposition 1904

*Shanghai Agent:*
*E. WOYAN*
*47 Quai de France*

In bags of 187½ lbs. (85½ kg.) net

Tangshan Portland Cement is universally used throughout North China by Railways, Engineering Works, Mining Companies, Municipalities, etc. Orders of large extent accepted for delivery at short notice.

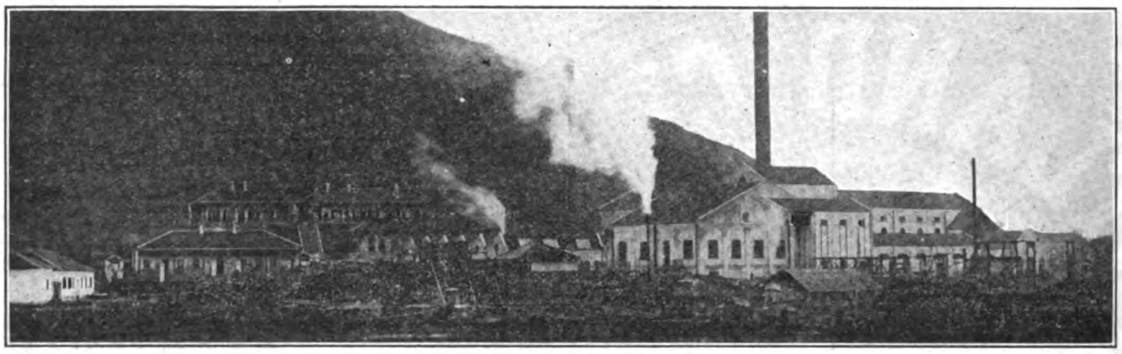
**CEMENT MOSAIC TILES**
**CEMENT ROOFING TILES**
**CEMENT PAVING TILES**
**CEMENT DRAIN PIPES**
**FIREBRICKS**
**FIRECLAY TILES**
**GROUND FIRECLAY**

For particulars and prices apply to

**THE CHEE HSIN CEMENT CO., LTD.**

Head Offices:
TIENTSIN

*Hankow Agent:*
*CHING CHONG*



**TAYEH, HUPEH PROVINCE, CHINA**

TELEGRAPH ADDRESS:
**"SHUINEE"**

SHANGHAI OFFICES:
**221 NINGPO ROAD**
**TELEPHONE, 3431**

HANKOW OFFICES:
**CHINESE BUND, CHONG PING LANE**

ONE OF FOUR GRAB DREDGERS SUPPLIED TO THE GREAT WESTERN RAILWAY CO.

# PRIESTMAN BROTHERS, LIMITED

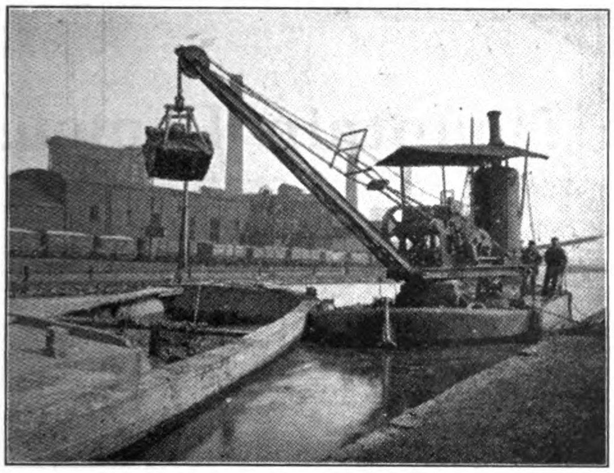
HULL AND
3 LAURENCE POUNTNEY HILL,
CANNON ST., LONDON, E. C.

## DREDGERS, EXCAVATORS AND ELEVATORS

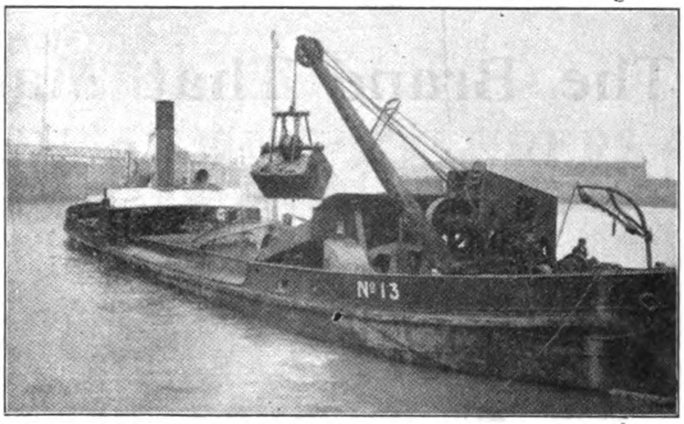
**150 DIFFERENT TYPES AND SIZES OF GRABS TO SELECT FROM 1 TO 150 CUBIC FEET CAPACITY**

PRICES AND FULL PARTICULARS ON APPLICATION TO

ONE OF A LARGE NUMBER OF GRABS TAKEN BY MESSRS. S. PEARSON & SON, LTD., CONTRACTORS



ONE OF A NUMBER OF GRAB DREDGERS SUPPLIED TO THE LONDON & NORTH WESTERN RAILWAY COMPANY




ONE OF FIFTEEN GRAB DREDGERS SUPPLIED TO THE LIVERPOOL DOCKS BOARD

**DICKESON, JONES & CO., AGENTS FOR CHINA**

# Bohler Bros. & Co., Ltd.

## Steel Works

### SYRIAN TOOL STEEL

| | |
|---|---|
| *Vienna, London, Berlin, Sheffield, Paris, Brussels, Leipsic, Dusseldorf, Munich, Frankfort a/m, Prague, Budapesth, Remscheid, Moscow, St. Petersburg, Ekaterinburh, Vladivostok, Tokyo, Osaka, Sydney, Moji* | *Extensive Stock at Shanghai of Highspeed, Tungsten, Chromium and Manganese Steels, Drill Steel, Tools, Files, Wire Ropes, Etc.* |

**On Admiralty List — Contractors to most Governments.**

**Japan Branch: International Building, Tokyo.**

**China Branch: 10 Kiangse Rd., Shanghai.**

**The United States offers the greatest opportunity** in the world to makers of industrial or denatured alcohol. Those who start this production now are bound to come to great rewards. The field is practically untouched and by starting now, you can have things very much your own way.

A general consideration of the NEW INDUSTRY, including a full description of the distilling apparatus used and the principle involved, also methods of chemical control and disposal of the products, first edition illustrated by seventy-four engravings, 156 pages. This book is cloth bound, it will be sent to any address post paid on receipt of $3.20. Every farm, ranch and merchant needs a 5 gallon Tax-Free denatured alcohol distillery apparatus. Agents price $98.50, a 100 gallon distilling apparatus cost $700.00. We are desirous to establish Far Eastern Agencies and have very good propositions to offer.

**THE UTILIZATION OF WOOD WASTE BY DISTILLATION**

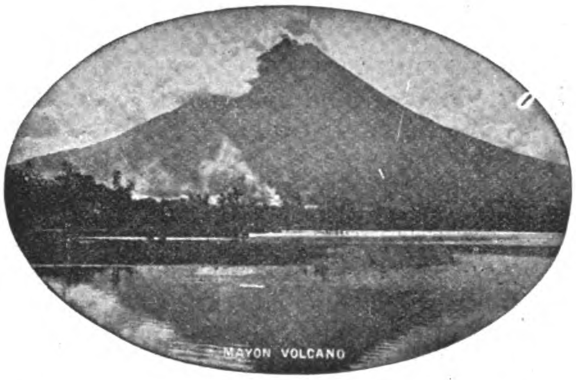
# Wood Waste Distilleries Co.

213-217 St. Clair Ave., N. W. CLEVELAND, OHIO, U. S. A.

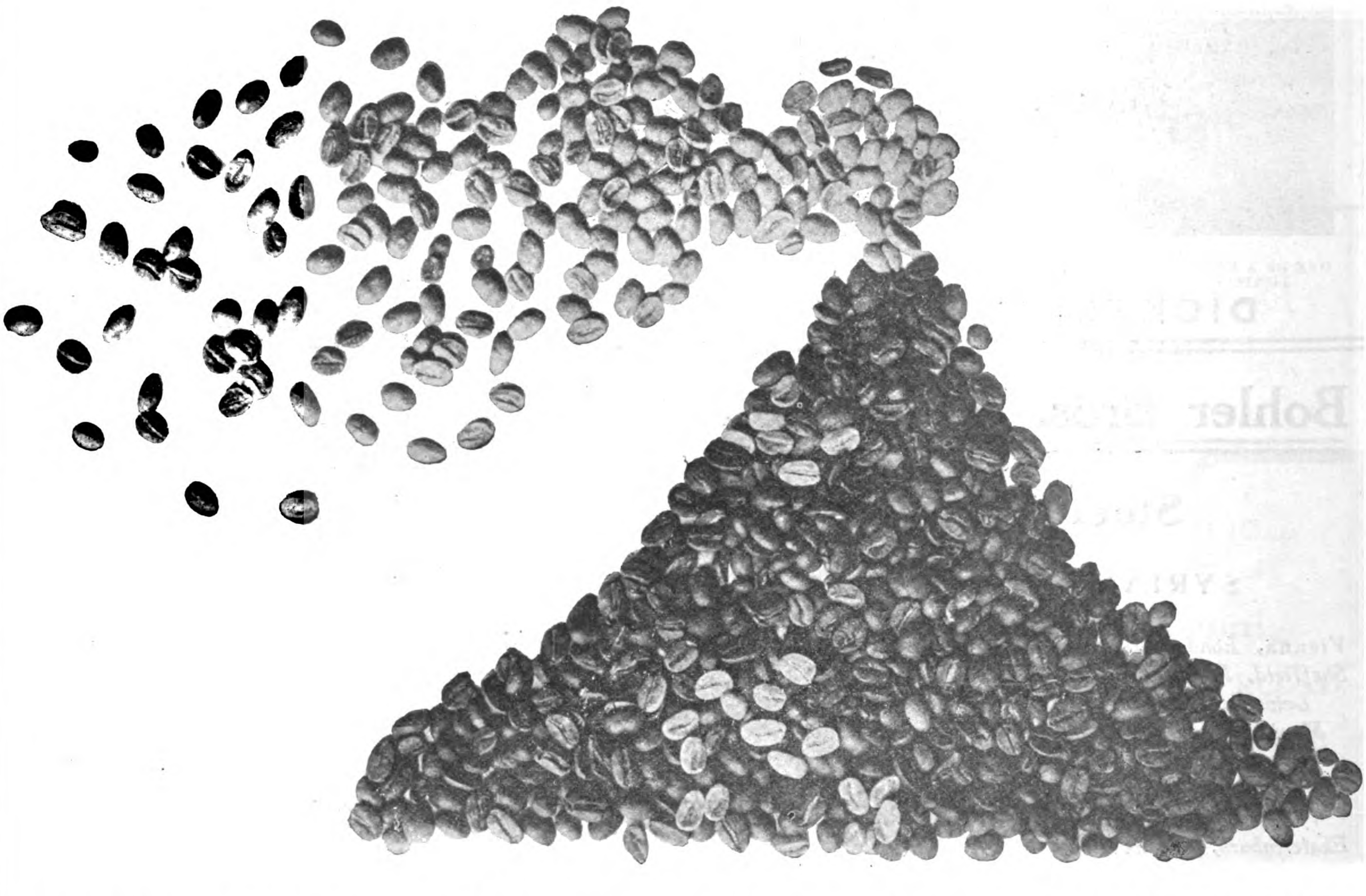
# CLARKE'S

MAYON COFFEE

MANILA PHILIPPINEIS.




The Brand That Made The Mountain Famous



CLARKE'S MAYON COFFEE

EQUALS "SATISFIED CUSTOMERS"

Once Tried Always Used—Never Refused

| Frank L. Strong | Stuart S. Harvey |
|---|---|
| Cable Address: STRONG | Cable Address: HARVISTON |
| Telephone No. 360 P. O. Box 772 | Telephone No. 360 P. O. Box 277 |

Offices: 34-40 Calle Echague, Manila, P. I.

EXCLUSIVE AGENTS

FOR LEADING

AMERICAN AND EUROPEAN MANUFACTURERS

LEADING SPECIALTIES

Electrical Machinery and Supplies

Saw Mill and Planing Mill Machinery

Locomotives and Railway Equipments

Air Compressors and Pneumatic Tools

Agricultural and Road Making Machinery

Mechanics' Tools, Builders' Hardware, etc., etc.

Steam Engines and Boilers

Kerosene and Gasoline Engines

Ice and Refrigerating Machines

Sugar, Rice and Fibre Machinery

Mining and Hydraulic Machinery

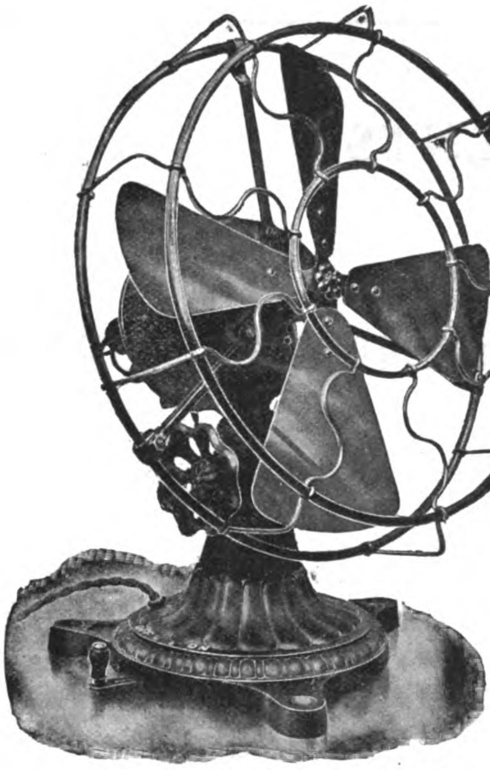
Complete Machine Shop Equipment

SPECIFICATIONS DRAWN ESTIMATES GIVEN

# Shanghai Electric and Asbestos Co., Ltd.

**Removed to new premises on Nanking Road—between the Bund and Szechuen Road, Shanghai**

## Electrical Engineers, Government Contractors, and Agents.



SOLE AGENTS FOR

*Bell's Asbestos Eastern Agency, Ltd.*

*Packings and Special Lubricants*

*Suter Hartmann and Rahtjen's "Red Hand"*

*Anti-Corrosive and Anti-Fouling Paints*

*"Express" Marine Oils*

*Easton Lift Co., Electric Lifts*

*Bowers Rubber Works, San Francisco, Cal.*

*Rubber Goods, Packings, Fire Hose, Mats, etc.*

**Cable Address: "OHM" SHANGHAI**
**Codes: A-1, A. B. C. (5th Edition), Engineering and Western Union**

The oldest established firm in our line in China. We carry the largest and most varied stocks in the Far East. Call and see our showroom

CLASSIFIED HEADINGS

**ELECTRICAL ENGINEERS, ELECTRICAL MACHINERY IMPORTERS, SUNDRY MACHINERY IMPORTERS, PAINT MERCHANTS, OIL MERCHANTS, RUBBER MERCHANTS, FIRE HOSE IMPORTERS, ASBESTOS IMPORTERS, PACKINGS IMPORTERS, ELEVATOR IMPORTERS, ELEVATOR INSTALLATIONS, SHIPS' COMPRADORES, MATTING IMPORTERS. - - - - - - - - - - - - -**

# ROSE, DOWNS & THOMPSON, LTD.

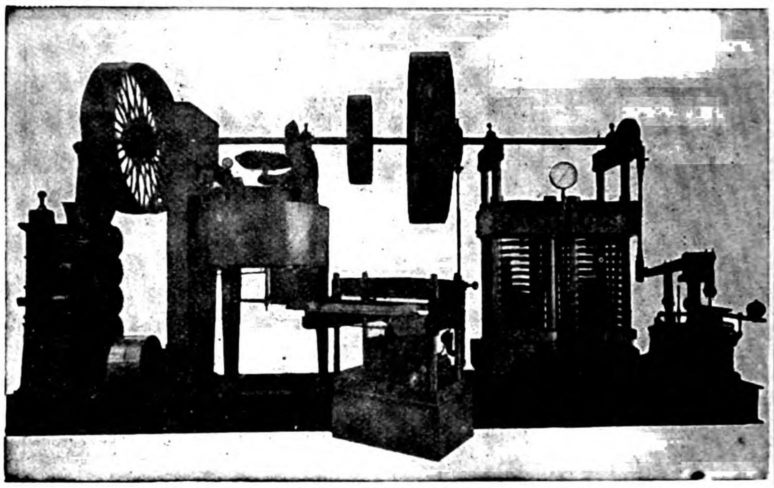
ESTABLISHED 1777

**EASTERN OFFICE: 13 NANKING ROAD, SHANGHAI**

CABLE ADDRESS: "ROSEDOWNS," SHANGHAI

HEAD OFFICE AND WORKS, HULL, ENGLAND

**CONTRACTORS TO HOME, COLONIAL AND FOREIGN GOVERNMENTS**



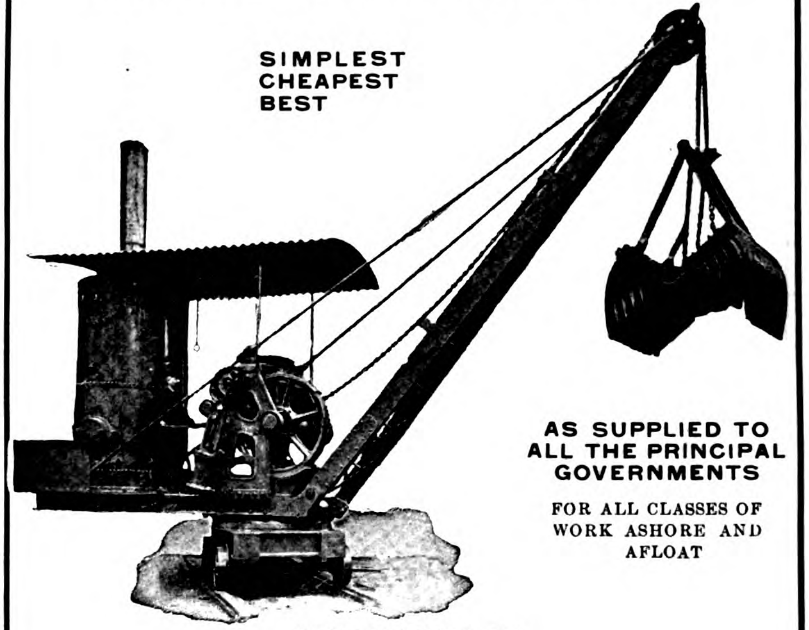
**OLDEST AND LARGEST MANUFACTURERS IN THE WORLD OF**

## OIL MILL MACHINERY

SUITABLE FOR THE TREATMENT OF EVERY VARIETY OF OIL-BEARING SEED AND NUT; ON THE MOST EFFICIENT AND MODERN PROCESSES

OVER 4,000,000 TONS OF SEEDS AND NUTS CRUSHED ANNUALLY IN MACHINERY MANUFACTURED BY US

SIMPLEST
CHEAPEST
BEST



AS SUPPLIED TO ALL THE PRINCIPAL GOVERNMENTS

FOR ALL CLASSES OF WORK ASHORE AND AFLOAT

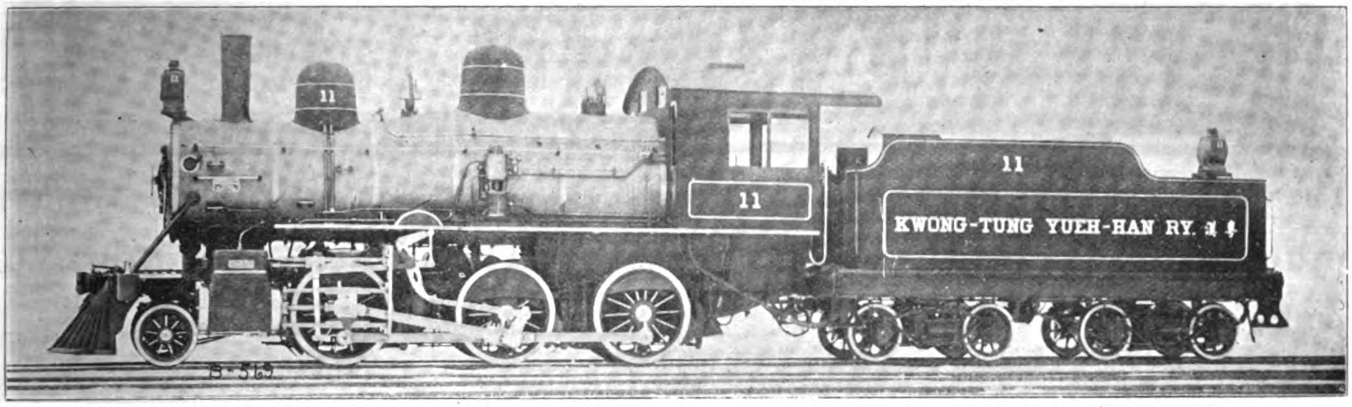
SOLE MAKERS OF

## The "Kingston" Grab Dredger and Excavator

POSSESSES IMPORTANT ADVANTAGES OVER ALL OTHER SYSTEMS

FOR DEEPENING RIVERS, DOCKS, CANALS, AND HARBOURS, EXCAVATING CLAY AND SAND, LIFTING ROCKS, DISCHARGING GRAIN, ETC., ETC.

**CATALOGUE, ESTIMATES AND FULL INFORMATION ON APPLICATION**




# MITSUI BUSSAN KAISHA

ENGINEERING DEPARTMENT

**Tokyo, Hongkong, Shanghai, Tientsin, Newchwang, Canton, Hankow, Dairen, Mukden, Changchun, etc.**

## Locomotives, Passenger Coaches, Freight Cars, Bridges, Rails, etc.

**Railways equipped throughout with the most modern Standard Appliances**

RAILWAYS IN CHINA FULLY OR PARTIALLY
EQUIPPED WITH MATERIALS SUPPLIED BY THE MITSUI BUSSAN KAISHA
SOUTH MANCHURIA RAILWAY; ANTUNG-MUKDEN LINE; KIANGSI RAILWAY; PEKING-HANKOW RAILWAY; KIANGSU RAILWAY; CHEKIANG RAILWAY; SWATOW-CHAOCHOWFU RAILWAY; ETC.

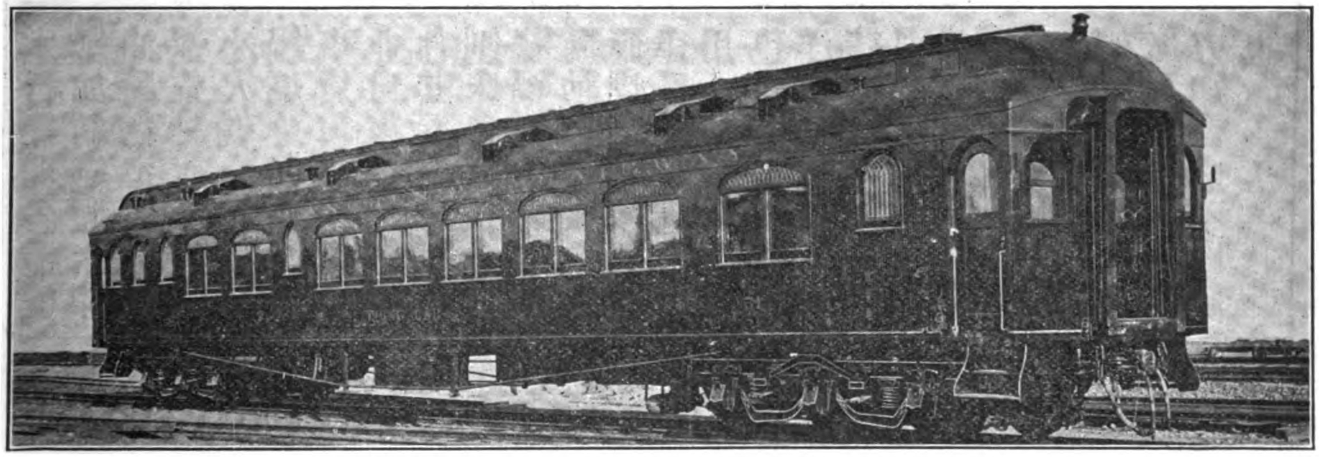
AGENTS IN JAPAN, KOREA, MANCHURIA AND CHINA FOR

**American Locomotive Co., Gould Coupler Co., The Pullman Co., Safety Car Heating & Lighting Co., Jones Laughlin Steel Co., Union Switch & Signal Co., etc.**

AGENTS FOR JAPAN AND KOREA:

**The Pyle National Headlight Co.**

RAILWAY MACHINE SHOPS FITTED COMPLETE WITH THE MOST APPROVED TYPES OF SPECIAL MACHINE TOOLS.



PULLMAN SLEEPING CAR ON THE SOUTH MANCHURIA RAILWAY

## Supplied by the MITSUI BUSSAN KAISHA

KOBE
CANTON
HONGKONG
SHANGHAI
TIENTSIN
NEW YORK

# SHEWAN, TOMES & Co

LONDON
OFFICE
27
LEADENHALL
STREET
LONDON, E.C.

**IMPORT AND EXPORT MERCHANDISE, COMMISSION AND SHIPPING AGENTS**

## London—Hongkong—Canton—Shanghai—Tientsin—Kobe—New York

**Telegraphic Address:**
**"KEECHONG," All Branches.**

**Hongkong Post Office Box: No. 131B**
**Shanghai Post Office Box: No. 84**

## General Managers of

The China Light & Power Co., Ltd., Hongkong
The Green Island Cement Co., Ltd., Hongkong
The Hongkong Rope Mfg. Co., Ltd., Hongkong
The China Provident Loan & Mortgage Co., Ltd., Hongkong
The Whangpoo Wharf and Godown Co., Ltd., Shanghai
The China and Manila Steamship Co., Ltd., Hongkong
The Canton Land Co., Ltd.
Equitable Life Assurance Society of the United States, Hongkon

## Agents for

American Asiatic Steamship Co.
American Manchuria Line, Hongkong
J. Marke Wood's Line of Steamers
The Yangtsze Valley Company, Ltd.
The Electric Traction Co. of Hongkong, Ltd.
The American China Development Co.
The Yangtsze Insurance Association, Ltd., Hongkong
World Marine Insurance Co., Hongkong
Reliance Marine Insurance Co., Hongkong
Union Marine Insurance Co., Ltd., Hongkong
Batavia Sea and Fire Insurance Co., Hongkong
Glen Line of Steamers, Hongkong
The British Dominions Marine Insurance Co., Ltd., Hongkong
North British & Mercantile Insurance Co., Hongkong
Law Union & Crown Insurance Co., Hongkong
Yorkshire Fire and Life Insurance Co., Hongkong
Fireman's Fund Insurance Co. (Fire only), Hongkong
Insurance Company of North America, Hongkong
The Chinese Engineering and Mining Company, Ltd., Hongkong
Shanghai Pulp and Paper Co., Ltd., Hongkong
The International Sleeping Car and Express Trains Co., Hongkong
(Trans-Siberian Railway), Hongkong
Tacoma Grain Co.
Birkmyre Bros.

# MACHINERY DEPARTMENT

## Shanghai, Telephone No. 3487

**ELECTRIC LIGHT & POWER PLANTS. RAILWAY, MINING, MILL AND INDUSTRIAL PLANTS AND EQUIPMENT; SAFETY WATER-TUBE BOILERS; STEAM TURBINES; PUMPS, GAS ENGINES, PRODUCERS, ETC. ENGINEERING AND ELECTRICAL SUPPLIES**

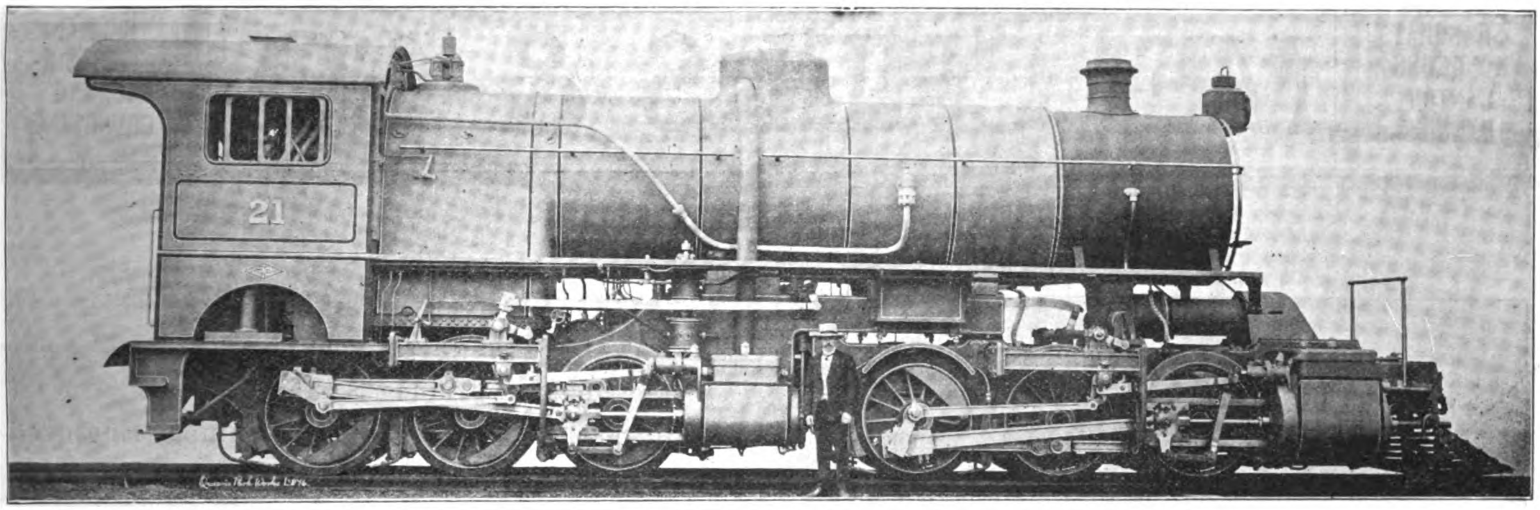
## 上海英商新旗昌洋行機器處廣告

本行棧子房現設江西路六號 電話三四八七號

本行經理各種機器如紡織碾米榨油磨麪造紙開礦墾荒抽水挖泥大小火輪全副引擎鍋爐及火車頭客車貨車鐵路材料並自來水一切物件其餘鋸木車鑽刨床各式大小引擎鍋爐及磨電機發動機煤氣引擎發煤氣機以及得律風電燈電氣應用一切另件等具色色俱全均係外洋著名廠家特別精造新式玲瓏堅固但各項名目繁多未便盡載倘承賜顧或蒙函詢當即竭誠詳細奉答價亦格外克己以廣招徠尚祈惠臨方知言之不虛謬也

**SOLE REPRESENTATIVES IN CHINA FOR**

British Insulated & Helsby Cables Ltd. (Hongkong and S. China).
British Westinghouse Electric & Manufacturing Co., Ltd.
Browett Lindley & Co., Ltd., England.
Barber Asphalt Paving Co., U. S. A.
Fraser & Chalmers Ltd., England.
J. G. Brill Co.
Lima Locomotive & Machine Co., U. S. A.
The London Phosphor, Copper & Bronze Co.
Manning, Maxwell & Moore, Inc., U. S. A.
Power Pulley Co., Ltd., England.
Power Gas Corporation Ltd., England, (except bituminous plants)
Ransomes, Sims & Jefferies, Ltd., England.
Rhodes Motors Ltd., England
Sullivan Machinery Co., U. S. A., South China.
Turner Bros. Ltd., England, North China.
Wason Manufacturing Co., U. S. A.
The Wolf Co., U. S. A.
Wolverine Motor Works, U. S. A.
Water Tube Boiler Co., Ltd., England



MALLET TYPE ENGINE FOR THE PEKING-KALGAN LINE MADE BY THE NORTH BRITISH LOCOMOTIVE CO.

# North British Locomotive Co., Ltd.

**HYDE PARK WORKS**
(Late NEILSON, REID & CO.)

**QUEEN'S PARK WORKS**
(Late DUBS & CO.)

**ATLAS WORKS**
(Late SHARP, STEWART & CO., Ltd.)

**Head Office and Administration Building: SPRINGBURN, GLASGOW**
LONDON OFFICE:—17, VICTORIA STREET, WESTMINSTER, S. W.
Telegrams: LOCO., GLASGOW

BUILDERS OF ALL KINDS OF

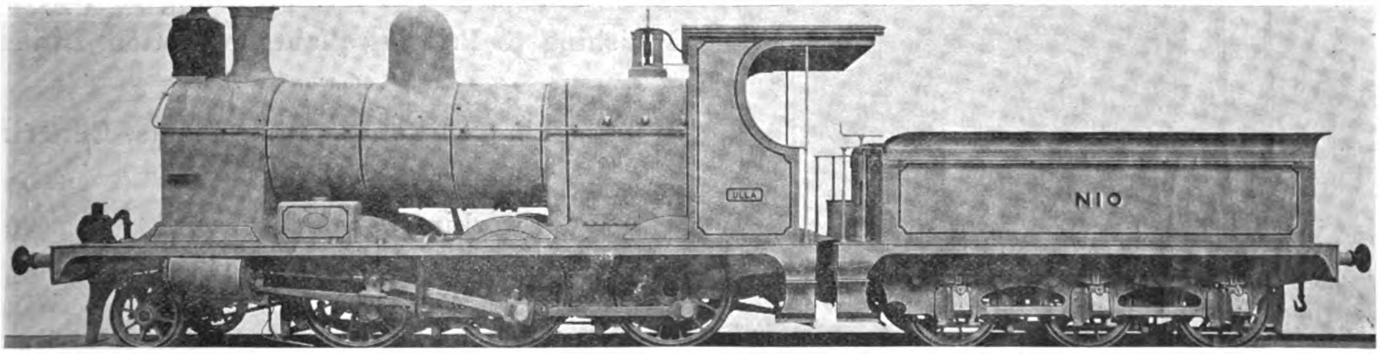
## Locomotive Engines and Tenders Suitable for any Gauge of Railway

| ANNUAL CAPACITY: | WORKSHOPS EQUIPMENT: | OUTPUT NOW EXCEEDS: |
|---|---|---|
| 700 | 8000 | 19,000 |
| MAIN LINE LOCOMOTIVES | MEN | LOCOMOTIVES |

## AGENTS IN THE EAST

**China: Messrs. Jardine Matheson & Co., Ltd., Hongkong and China**

**Japan and Manchuria: Messrs. Okura & Co., Tokyo**



TYPE OF NORTH BRITISH LOCOMOTIVE SUPPLIED TO THE TIENTSIN-PUKOW—SOUTHERN SECTION

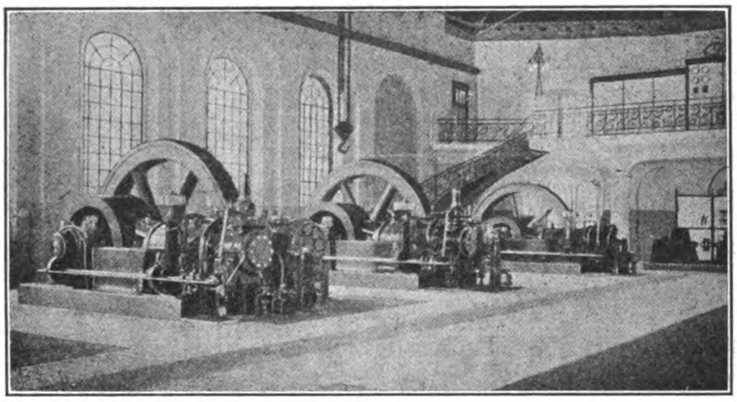
## THE LARGEST LOCOMOTIVE WORKS IN EUROPE

SHANGHAI
HONGKONG
CANTON
HANKOW

# MELCHERS & CO.

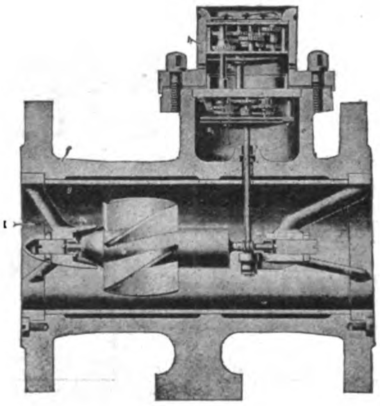
BREMEN
TIENTSIN
ICHANG
CHUNGKING

*Cable Address:* *MELCHERS.*

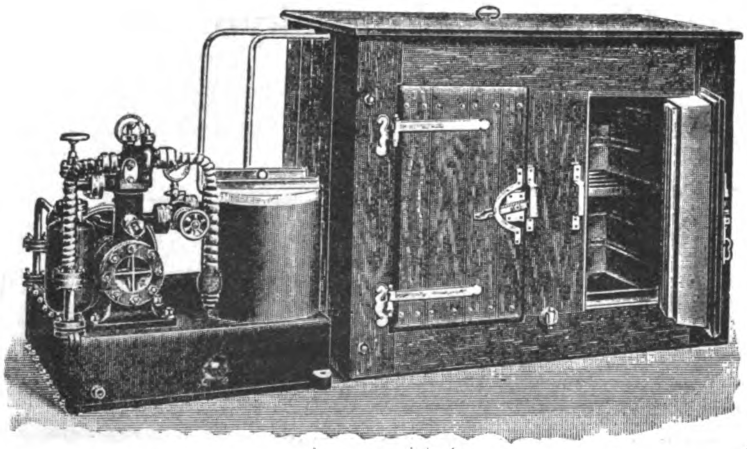


ELECTRIC POWER STATION WITH 3,400 HP. KOERTING'S GAS ENGINES SUCTION GAS PLANTS UP TO 500 HP. FOR ALL FUELS

**Waterworks**
Designing and Construction.
Pumps—Pipes.
*Carl Francke, Bremen.*



**Watermeters.** Wet running Dry running and Woltmann System.
*Breblauer Metallgieperei, Breslau.*



ICE-MAKING AND REFRIGERATING PLANTS

rom the smallest to the largest capacities. Small Ice-making and Refrigerating Plants for Hotels, Hospitals, Private Houses "System Ziegler." Safe—Reliable—Simple.

## *General Agents for:*

High Speed Steam Engines "Roland"
Steam Turbines System "Zoelly"
Ship machinery, as Winches, Pumps, Engines
*Norddeutsche Maschinen & Armaturen Fabrik G. m. b. H. Bremen*

Diesel Motors, Gas Engines, Suction Gas Plants
Koerting's Injectors, Ejectors, Heating Plants
*Gebr. Koerting, A. G. Koertingsdorf/Hannover*

Watertube Boilers, System Garbe, Marine Boilers
*Duerr & Co., Ratingen*

Dredgers for Harbour and River Work, Barges
Steam Tugs, Gold Dredgers, Hoppers
*Werf Conrad, Haarlem*

Marine Motors "Kromhout," Motor Boats
*Gebr. Goedkoop, Amsterdam*

Slow Speed Steam Engines, Condensing Plants
*Maschinenbau Anstalt A. G. Goerlitz*

Electrical Fittings, "Bergmann" Tubes, Meters
*Bergmann Electricitaets Werke, A. G. Berlin*

Electric Cables & Wires, Telephone & Telegraph Wires
*Dr. Cassierer, Charlottenburg*

Electric Fans, Small Motors, X Ray Apparatus
*Dr. Max Levy, Berlin*

Telephones, Central Stations, Bells
*Telephonfabrik vorm. F. Berliner, Hannover*

Textile Machinery, Bleaching & Dyeing
Finishing & Printing Plants for Cotton, Linen, Wool
*Fr. Gebauer, Berlin*

Ice-making & Refrigerating Plants, Centrifugal.
*Leopold Ziegler, Berlin*

Wood-working Machinery, *Teichert & Sohn*

"Atlas" Cranes, Electric Cranes, Differential Blocks
*Eduard Weiler, Berlin*

Steel Constructions, Steel Bridges, etc.
*Louis Eilers, Hannover*

Watermeters, Woltmann Meters
*Bresslauer Metallgiesserei, Breslau*

**EASTERN ENGINEERING COMPANY**

ARCHITECTS AND ENGINEERS

Special attention paid to Reinforced Concrete Designing : : : : : :

**Correspondence Solicited**

Rooms 10 and 11 LACK & DAVIS Bldg. Manila, P. I.

**HOTEL DE FRANCE**

PLAZA GOITI, MANILA

Best Appointed Hotel in Manila in Heart of Business Section.—Large Sample Rooms.—Hot and Cold Water.—Elegant Banquet Hall.—Private Dining Rooms.—French Cuisine.—Guides for Tourists.—Interpreter meets all Steamers.

**Cable Address: CAMPS**

THE CROWN IGNITOR

MADE BY F. H. THOMPSON MANILA P. I.

A High Grade Dry Cell

25 AMPERES OVER 1½ VOLTS

*Guaranteed*

Specially adapted to cope with Oriental Climatic Conditions.

Replace All Others Wherever Used

**SOLIGNUM**

THE RAVAGES OF THE WHITE ANT, DECAY, FUNGUS AND DRY ROT DESTROY PROPERTY TO THE VALUE OF MILLIONS YEARLY

THE ONLY SURE AND RELIABLE PROTECTION IS

**"SOLIGNUM"**

CAN BE APPLIED IN MANY SHADES OF COLOR TO STONE, WOOD OR BRICKWORK. SOLD IN 5 AND 10 GALLON DRUMS AND 40 GALLON CASKS

**PROTECTS**

*For Sale by* **THE CHINA IMPORT EXPORT LUMBER CO., Ltd.** SHANGHAI, HANKOW TIENTSIN, TSINGTAU

*Hongkong and Canton:* SIEMSSEN & CO. -:- *Foochow:* SIEMSSEN & KROHN -:- *Amoy:* PASEDAG & CO

# THE PREMIER COMPANY OF THE EAST

## Agencies from London to Manchuria

EXTRACT FROM 12th ANNUAL REPORT
SHEWING A RECORD PROGRESS : : :

| | |
|---|---|
| Insurance in Force | $37,855,885 |
| Assets | $ 8,415,250 |
| Income | $ 3,566,559 |
| Total funds | $ 8,216,812 |

*Low Rates!*
*Unconditional Policy!*
*Largest Bonuses!*

Registered under Hongkong Ordinances and under the Life Assurance Companies' Acts, England; and offers its Home-Returning policyholders the Double Advantage of being able to pay their Premiums to the Company's London and American Agents, Messrs. Thomas Cook and Sons, at reduced rates.

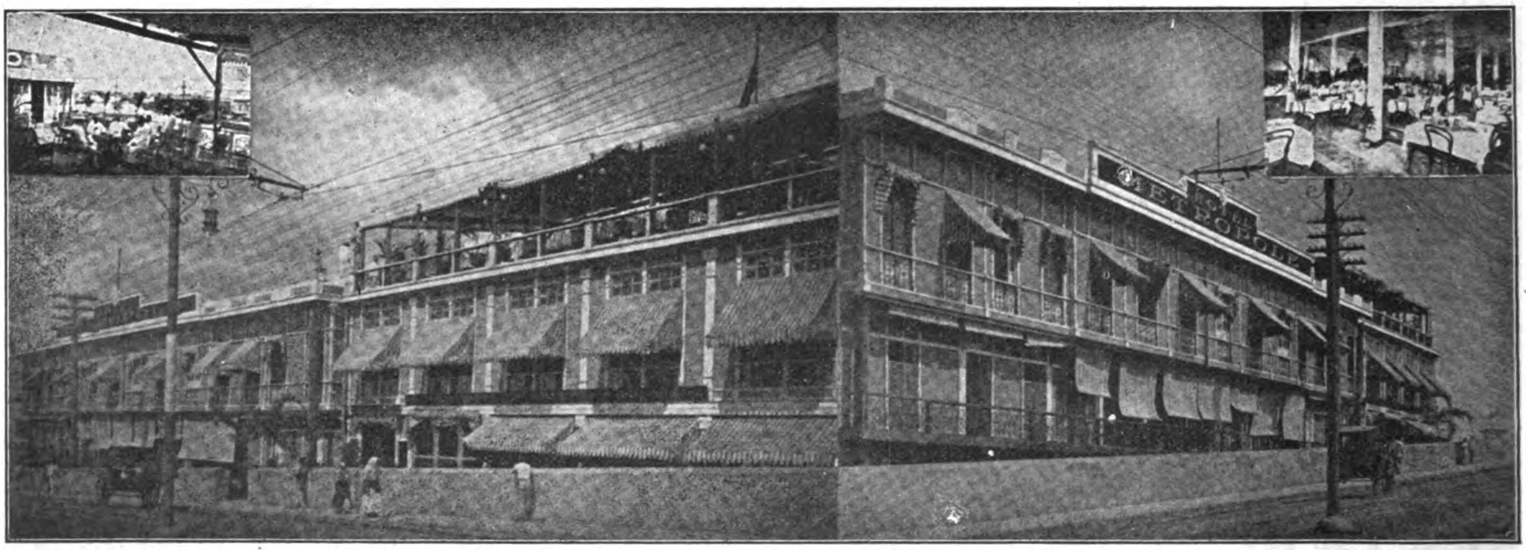
# NEW METROPOLE HOTEL

CABLE ADDRESS:
"METROPOLE" MANILA

## MANILA, P. I.

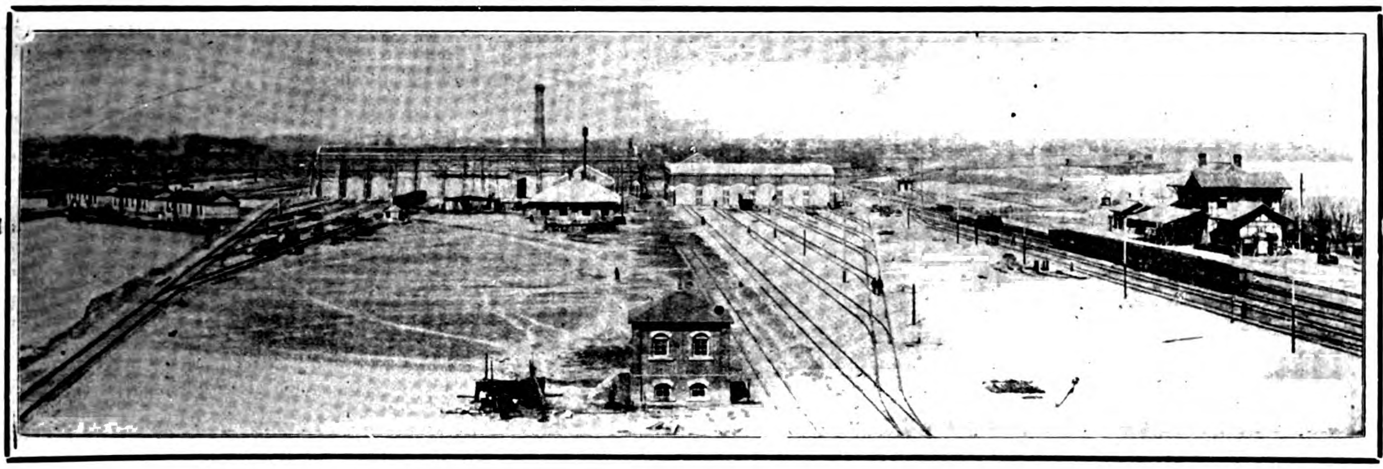
AMERICAN AND
EUROPEAN PLAN.

THIS MAGNIFICENT HOTEL HAS JUST BEEN COMPLETED AND IS FURNISHED IN THE MOST UP-TO-DATE MANNER. COMMODIOUS, WELL-AIRED, LIGHTED, AND SPACIOUS BEDROOMS



NEW METROPOLE HOTEL SHOWING ROOF GARDEN

¶ Private Dining Rooms for Banquets, Wedding Parties, etc.
¶ Roof Garden from which a Panorama of the Pasig River and Manila may be enjoyed.
¶ Centrally Located. Modern and Up-to-date—Cool and Well Ventilated—Electric Fans in all rooms—Excellent Service.

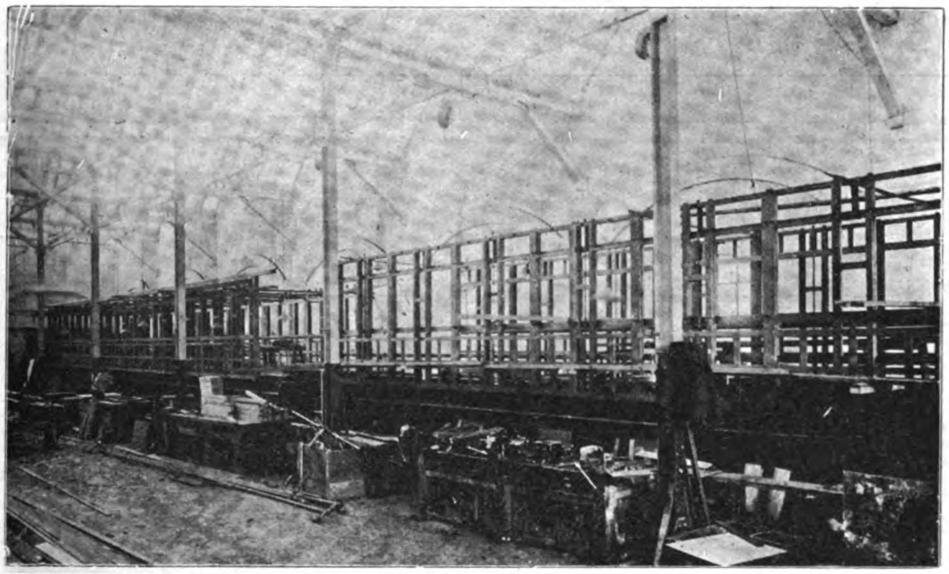


# WOOSUNG CAR SHOPS

OF THE

## SHANGHAI -:- NANKING -:- RAILWAY

LOCATED AT WOOSUNG AT ENTRANCE TO WHANGPOO RIVER, SHANGHAI. DEEP WATER WHARF WITH EVERY FACILITY FOR HANDLING HEAVY MATERIAL.



VIEW OF ERECTING SHOP

THESE SHOPS ARE FULLY EQUIPPED WITH THE MOST MODERN PLANT AND APPLIANCES FOR THE CONSTRUCTION OF CAR BODIES AND SETTING UP CAR PARTS ORDERED FROM ABROAD, ALL UNDER EXPERT SUPERVISION : : : : : : : : : : : : : : : : : : :

**CARS FOR THE NANKING CITY RAILWAY, KIANGSU RAILWAY AND THE ANHWEI RAILWAYS WERE SET UP AND FINISHED AT THESE WORKS**

CORRESPONDENCE WITH OTHER RAILWAY COMPANIES SOLICITED

## SHANGHAI NANKING RAILWAY

Managing Director
TAOTAI CHUNG MUN-YEW

General Manager
A. W. U. POPE

TELEPHONE 1108.

TELEGRAPHIC ADDRESS: "HARDWARE, SHANGHAI."

HEATING, LIGHTING AND SANITARY ENGINEERS

# GORDON & COMPANY

110 SZECHUEN ROAD, SHANGHAI

STEAM OR HOT WATER HEATING PLANTS

AGENTS FOR THE CARRON COMPANY OF FALKIRK, SCOTLAND

STOVES AND FIRE GRATES

MODERN BATH-ROOM LUXURIES

HOT AND COLD WATER AND SANITARY FITTINGS

OUTPORT WORK A SPECIALTY

# SAN MIGUEL BREWERY

MANILA, P. I.

*The Largest and Most Modern* ***Brewery***

IN THE FAR EAST

*Get into the Habit of Asking for* ***San Miguel***

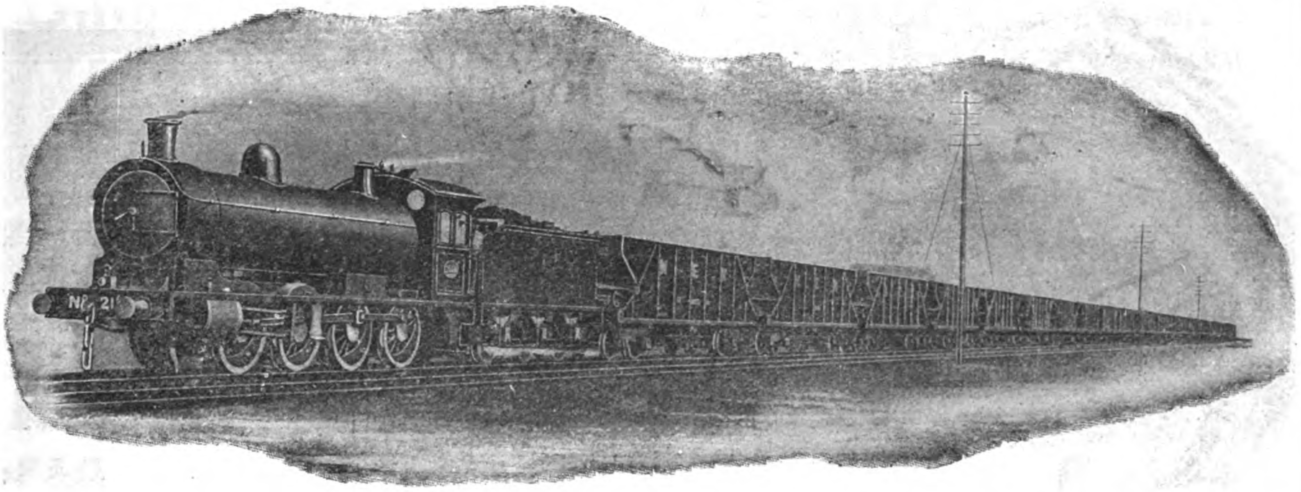
IT IS ABSOLUTELY PURE

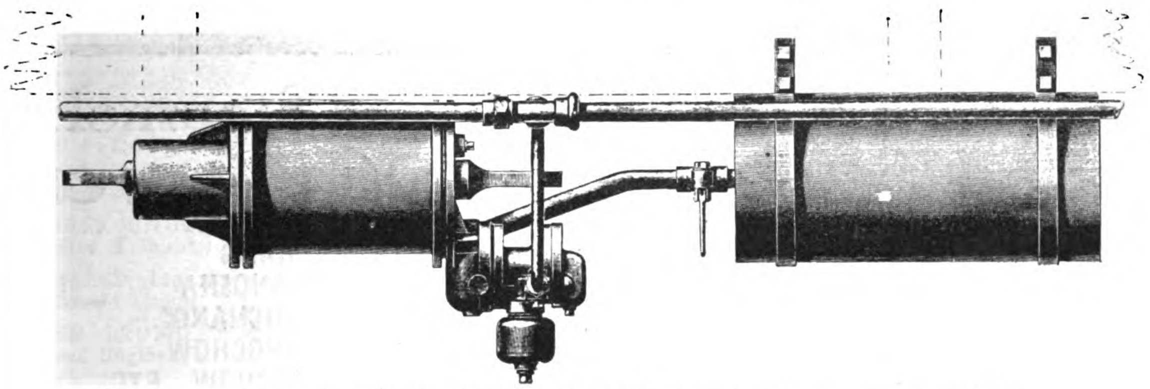
Containing No Trace of Injurious Chemicals

# THE WESTINGHOUSE BRAKE

N. E. R. Goods Train fitted with the Westinghouse Brake and Friction Draft Gear.

**STANDARD ON MORE RAILWAYS THAN ANY OTHER BRAKE**





APPLICATION OF IMPROVED TRIPLE VALVE TO CHINESE RAILWAY CARRIAGES OR WAGONS

THE 3½" IMPROVED WESTINGHOUSE TRIPLE VALVE: SIMPLE IN CONSTRUCTION AND ESPECIALLY DESIGNED TO MEET THE REQUIREMENTS OF FAR EASTERN RAILWAYS

Manufactured and furnished solely by

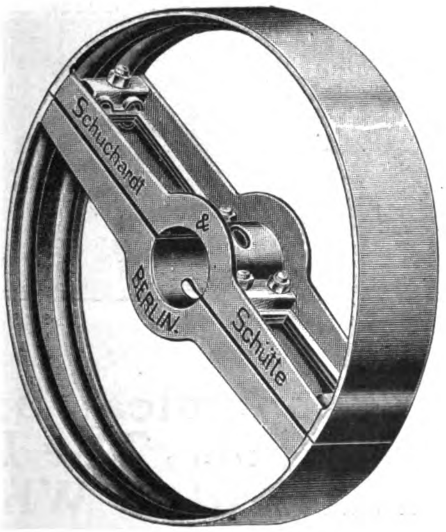
**The Westinghouse Brake Co., Ltd.**
London

JARDINE MATHESON & CO., LTD.
Sole Agents for China

---

## SCHUCHARDT & SCHUTTE

BERLIN LONDON NEW YORK




ABSOLUTELY RIGID
NO BREAKAGE NO WARPING.

FULL ASSORTMENT OF SIZES CARRIED IN STOCK BY:

TAKATA & CO., TOKYO
SHANGHAI MACHINE CO., SHANGHAI AND HANKOW.
GERMANN & CO., MANILA.
HOWARTH ERSKINE & CO., LTD., BANGKOK.
MAINTZ & CO., BATAVIA AND SOERABAYA.

---

## J. G. WHITE & COMPANY, Inc.

ENGINEERS
CONTRACTORS
MANAGERS

Developers of Properties and of Natural Resources

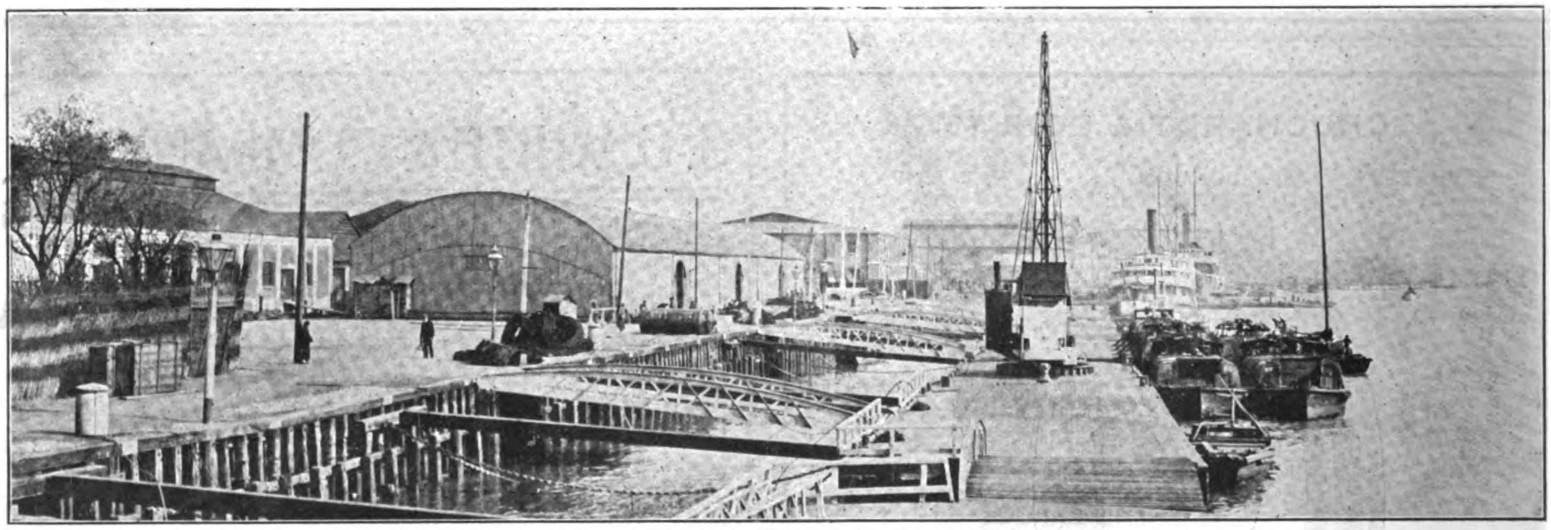
43 EXCHANGE PLACE, NEW YORK, N. Y.
Alaska Commercial Bldg., San Francisco, Cal.
First National Bank Bldg., Chicago, Ill.

*London Correspondents:*

**J. G. WHITE & COMPANY, Ltd.**
9 CLOAK LANE, E. C.

## Operating Coast and River Steamships
## Between Shanghai and all the Principal Ports of China

| | | | |
|---|---|---|---|
| SHANGHAI | AMOY | NANKING | ICHANG |
| CHEFOO | SWATOW | WUHU | CHANGSHA |
| TIENTSIN | HONGKONG | KIUKIANG | NANCHANG |
| NEWCHWANG | CANTON | HANKOW | HANGCHOW |
| FOOCHOW | CHINKIANG | SHASI | SOOCHOW, ETC. |



VIEW OF LOWER HONGKEW WHARVES

**Operating the Most Extensive and Economical System of Wharves and Warehouses in Shanghai. The Lower HongKew, Central, Eastern, and YangKadoo Wharves Possess Every Facility for Quick and Economical Dispatch.**

GOODS FROM ANY PART OF THE WORLD MAY BE CONSIGNED TO OUR BONDED WAREHOUSES, AND WILL BE DISCHARGED AND STORED AT LOWEST RATES, SUBJECT TO DELIVERY AT ANY TIME TO AUTHORIZED PARTIES

H. E. TAOTAI M. Y. CHUNG
MANAGING DIRECTOR
NO. — BUND

THOMAS H. HARRIS
GENERAL MANAGER
LOWER HONGKEW WHARVES

CABLE ADDRESS: "BRIMAL" SHANGHAI

CODES: A. B. C. 5TH ED. ENGINEERING 2ND EDITION WESTERN UNION

# BRIGHTEN, MALCOLM & CO., LTD.

ENGINEERS AND CONTRACTORS

SOLE AGENTS IN CHINA FOR

## Callender's Cable & Construction Co., Ltd.

MANUFACTURERS OF ALL CLASSES OF ELECTRIC CABLE

8 KIUKIANG ROAD SHANGHAI

TELEPHONE NO. 2794

SPECIFICATIONS DRAWN UP AND ESTIMATES GIVEN FOR ALL CLASSES OF ENGINEERING WORK -:- -:- -:- -:- -:- -:- -:- SPECIALISTS IN ELECTRIC LIGHT AND POWER PLANTS, LIGHT ELECTRIC RAILWAYS AND TRAMWAYS AND ELECTRIC LIFTS -:- -:- -:- -:- -:- -:- -:-

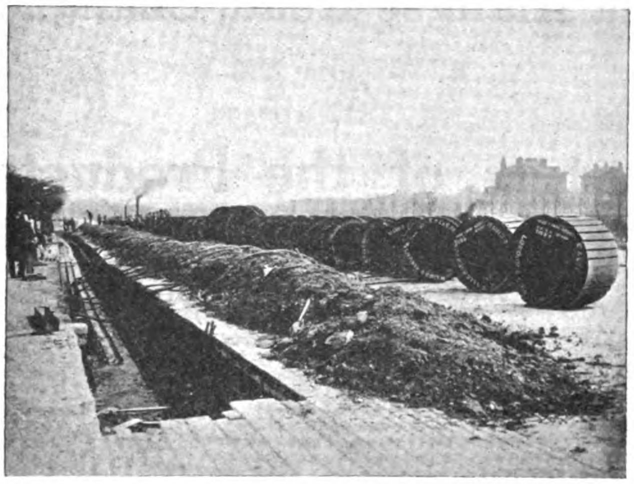
**Sole Agents**

FERRANTI, Ltd., Electric Meters & Switch Gear.

RHODES MOTORS, Ltd., Electric Dynamos & Motors.

CRYSELCO, Ltd., Carbon & Metallic Filament Lamps.

PETER BROTHERHOOD, Ltd., High Speed Engines.



LAYING CALLENDER MAINS, LIVERPOOL, NEW ZEALAND

TENDERS SUBMITTED FOR STEAM RAILWAY MACHINERY AND PLANT -:- -:- -:- -:- -:- -:- LOCOMOTIVES, RAILS, SLEEPERS -:- -:- -:- -:- -:- -:- -:- PASSENGER AND FREIGHT CARS, ETC. -:- -:- -:- -:- -:- -:- MACHINE TOOLS OF ALL DESCRIPTIONS -:- -:- -:- -:- -:-

**Sole Agents**

J. W. BROOK & CO., Ltd., Motor Cars and Boats.

MELDRUM BROS., Automatic Stokers

BECKFLAME LAMP CO., Ltd., Arc Lamps.

HAYWARD TYLER CO., Ltd., Hydraulic Machinery.

# THE ROBERT DOLLAR CO.

HEAD OFFICE: 160 California St., San Francisco, Cal.

CHINA OFFICE: 13 Nanking Road, Shanghai

## Mills at Tacoma, Wash., and Portland, Ore., U. S. A.

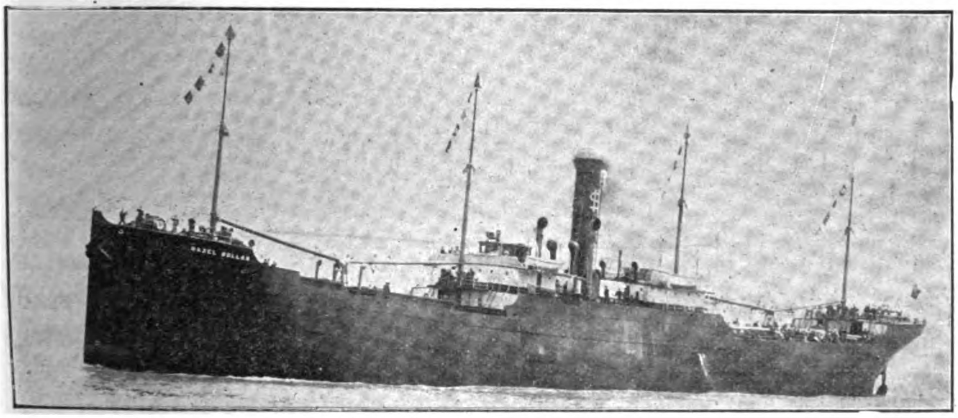
STEAMERS

BESSIE DOLLAR - - - - - - - HAZEL DOLLAR

STANLEY DOLLAR - - - - - - - M. S. DOLLAR

MELVILLE DOLLAR - - - - - HAROLD DOLLAR

GRACE DOLLAR



S. S. "HAZEL DOLLAR"

MANUFACTURERS OF OREGON PINE, CALIFORNIA RED WOOD AND CREOSOTED SLEEPERS

OUR MILLS ARE ESPECIALLY EQUIPPED FOR SUPPLYING RAILWAY TIMBER ORDERS, AND WE MAKE PROMPT DELIVERY BY OUR OWN STEAMERS

CABLE ADDRESS: "DOLLAR"

A. B. C. 5th Ed.: Southard's Codes

# United States Steel
## PRODUCTS EXPORT CO.

**24a Kiangse Road, Shanghai**

## Exporters of the Products of

*Carnegie Steel Co.*
*Lorain Steel Co.*
*Illinois Steel Co.*
*Shelby Steel Tube Co.*
*National Tube Co.*
*Western Tube Co.*
*Tennessee Coal & Iron Co.*
*American Sheet & Tin Plate Co.*
*American Steel & Wire Co.*
*American Bridge Co.*

## Manufacturers of

Bridges, Steel Rails, Bolts and Spikes, Switches and Crossings, Steel Cross Ties, Schoen Steel Wheels, Forged Axles, Coil Springs, Tubular Poles, Buildings, Steel Plates, Shapes, Concrete Reinforcement, Shafting, Merchant Bars, Tool Steel, Hoops, Corrugated Sheets, Tin Plate, Boiler Tubes, Gas, Steam and Water Pipe, Pipe Fittings, Wire Nails, Wire Rope, Steel and Copper Wire, Wire Fencing, Horse Shoes,

CARNEGIE STEEL SHEET PILING

*Designs and Estimates Submitted for Bridges and Steel Buildings Erected Complete*

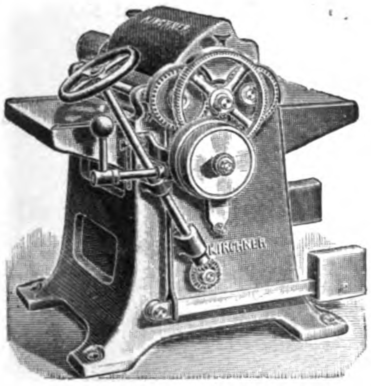
CABLE ADDRESS: "FEDERATION"

# GERMANN & CO., Ltd.

PHONE 500
P. O. BOX 310

## Electrical and Mechanical Engineers and Contractors

3 PASAJE DE PEREZ, MANILA, P. I.

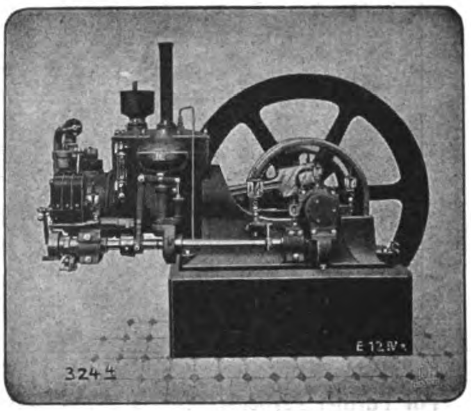


KIRCHNER'S PLANER

GENERAL MACHINERY AND SUPPLIES

ELECTRIC LIGHT AND POWER PLANTS

SCIENTIFIC APPARATUS AND INSTRUMENTS



PETROLEUM MOTOR ENGINE

COMPLETE INDUSTRIAL AND AGRICULTURAL MACHINERY OUTFITS

CONSULTING AND CONSTRUCTING ENGINEERS

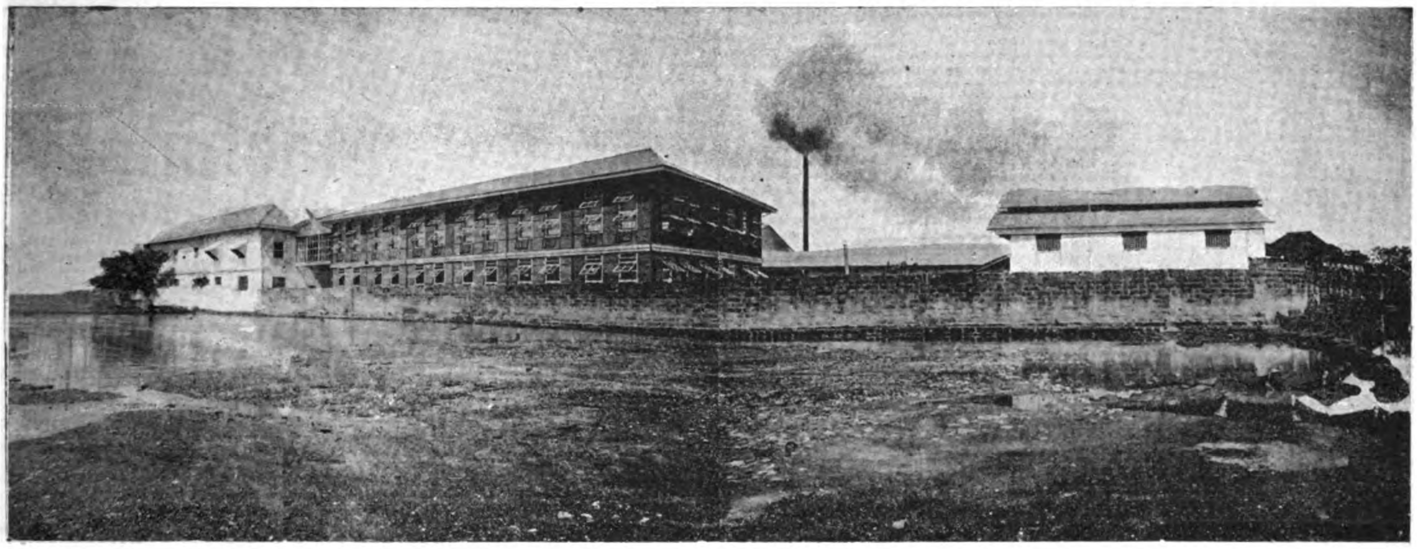
REPRESENTING LEADING MANUFACTURERS OF THE UNITED STATES AND EUROPE

Cable Address: ALHAMBRA

# ALHAMBRA

P. O. Box 301
Telephone 527

## Cigar and Cigarette Factory, Manila, P. I.



Most perfect sanitary installations and absolute cleanliness throughout the Factory in every department.

**View of the Factory from the Riverside.**

Well ventilated, airy working rooms. Everything under European expert supervision.

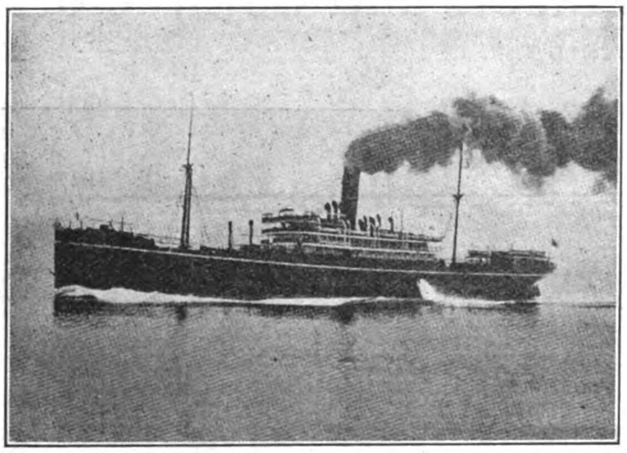
A few leaders:
Divinos, Regalia, Alha., Excelentes, Perfectos, Especiales, High Life, Incomparables, Republica, Imperiales, Etc., Etc.

Why the Best:
We use nothing but finest selected Isabela leaf.
We maintain the quality of each grade by strict supervision.
We combine quality, grade and price so as to give the best return for money.

Catalogs, Price Lists and Samples Furnished on application

KUENZLE & STREIFF, PROPS.

# NIPPON YUSEN KAISHA



(JAPAN MAIL S. S. CO.)

Under Mail Contract with the Imp. Japanese Government

EUROPEAN LINE ................ FORTNIGHTLY
AMERICAN LINE ................ FORWEEKLY (FROM KOBE FORTNIGHTLY)
AUSTRALIAN LINE ................ FORTNIGHTLY
YOKOHAMA SHANGHAI LINE..... TWICE A WEEK
SEVERAL LINES BETWEEN JAPAN TO NORTH CHINA, COREA, VLADIVOSTOK, ETC.

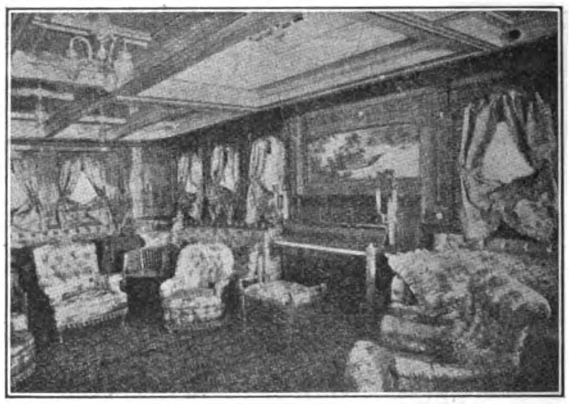
For Further Particulars concerning Freight and Passage, apply

NIPPON YUSEN KAISHA

SHANGHAI, HONGKONG, YOKOHAMA, KOBE, MOJI, NAGASAKI AND

WARNER BARNES & CO.

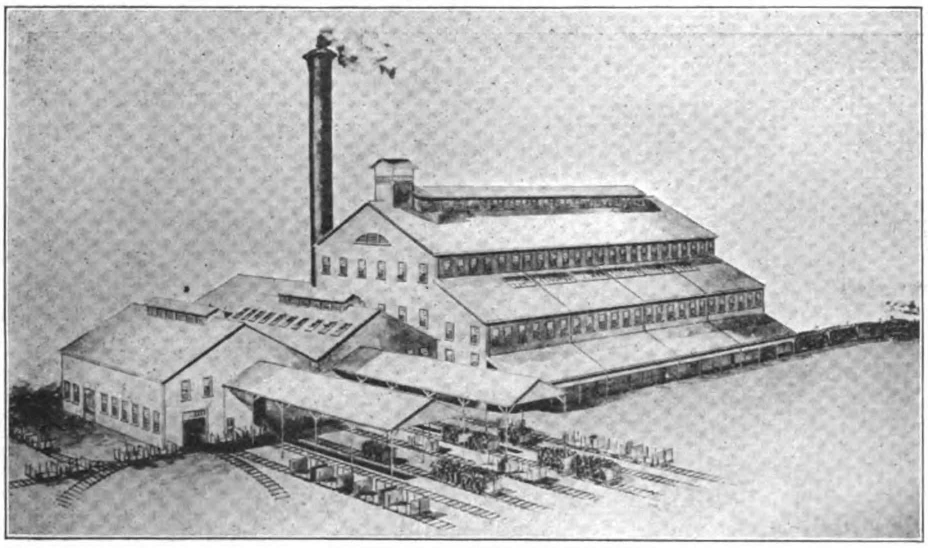
Agents, Manila



SOCIAL HALL S.S. "NIKKO MARU"

# HONOLULU IRON WORKS COMPANY

Established 1852 HONOLULU, TERRITORY OF HAWAII Rebuilt 1899



EWA MILL DESIGNED BY HONOLULU IRON WORKS COMPANY, FOR A CAPACITY OF 2,400 TONS CANE PER DIEM

BUILDERS OF

Sugar Machinery

OF ALL DESCRIPTIONS

Sugar Mills
Evaporators
Tanks
Cane Cars
Vacuum Pans
Steam Boilers
Riveted Steel Pipe
Cane Unloaders, Etc.

Consulting Engineers, Designers and Contractors

FOR COMPLETE SUGAR FACTORIES

# HONOLULU IRON WORKS COMPANY

Eastern Office, 11 Broadway, NEW YORK

Cable Address: "HONIRON," Honolulu Codes: A. B. C. 4th and 5th Edition and Western Union

# The Han-yeh-ping Iron and Coal Co., Ltd.

**Telegraphic Address**
**"HANSTEEL"**

**Codes used:**
**A.B.C. 5th Ed., Western Union and Engineering Telegraph Codes.**

**HEAD OFFICE:**
**110, Bubbling Well Road, Shanghai, China.**

The following Works and Mines, the property of the Company, are in active operation:—
HANYANG IRON AND STEELWORKS—situated in Hanyang (Hankow).
PINGHSIANG COLLIERY—situated in Pinghsiang, at border between Kiangsi, and Hunan Province.
TAYEH IRON MINES—situated in Tayeh on the Yangtsze River 72 miles below Hankow.

## HANYANG IRON AND STEEL WORKS

**Works Head Office in Hanyang**

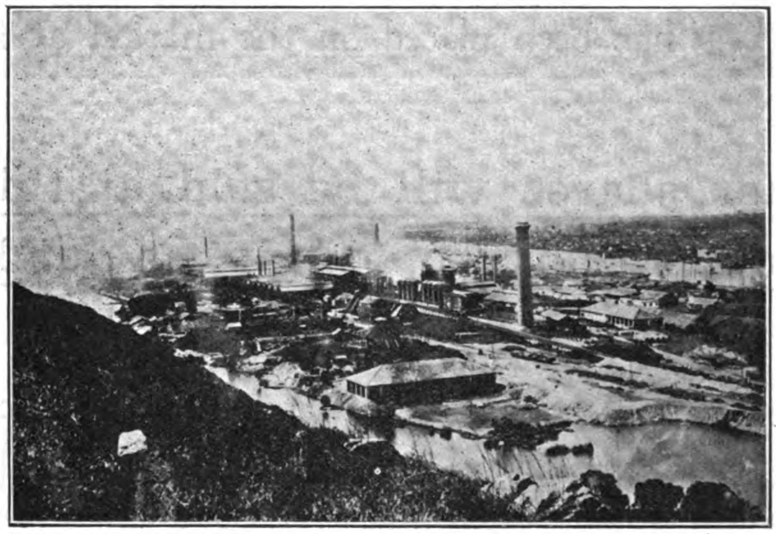
**Sales Office:—45 Szechuen Road, Shanghai, and also in Hongkong and Canton.**
**Representative in Australia:—*L. H. DRAKEFORD.***

PIG IRON

*Foundry*—Largely exported to Japan and America, where it finds the highest favor—Sold by Grain—Can be cast over again.
*Basic Iron*—For steel making also largely exported to America and Japan.

STEEL MATERIALS

All steel is made by the Siemens-Martin process and supplied to pass any standard tests.
*Railway Supplies*—Standard-Gauge Rails from 50 lbs. per yard (25 kg. per m.) up to 100 lbs. (50 kg. per m.)
*Narrow Gauge Rails*—from 16 lbs. per yard (8 kg. per m.) up to 50 lbs. (25 kg. per m.)
*Fishplates, Spikes, Bolts and Nuts.*
*Structural Shapes*—Bars, Plates and Angles, etc.



SHIPPING DEPARTMENT

The light draft steamer *Han-ping*, fitted with electric lights and strong derricks and running between Hankow and Shanghai, is the best steamer to handle heavy machinery in the Yangtsze River.

WHARF—The Company owns a wharf in Shanghai, situated at Nam Ma Tau on the Pootung Side a little below the Kiangnan Arsenal, with a frontage of about 900 feet and offering excellent accommodation for the storage of Coal or Timber.

For particulars and terms, apply to the Sales Office, No. 45 Szechuen Road, Shanghai.

## PINGHSIANG COLLIERY

**Head Offices and Shipping and Sales Offices:**

**No. 1 Poyang Road, Hankow =:= Sales Office, Shanghai, 45 Szechuen Road**

COAL—Best Steaming Coal—Navy Lump, Run of the Mines, and Washed Nuts. Stocks kept in Yochow, Hankow, Kiukiang, Wuhu, Nanking, Chinkiang, and Shanghai.

Contracts made with the following Companies for the supply of Bunker Coal:—

Messrs. Butterfield & Swire, The Hamburg Amerika Linie, The East Asiatic Co., Ltd., Tung Kee & Co., The Asiatic Petroleum Co., The Standard Oil Co. of New York, and the Robert Dollar Co.

Suppliers also to the following Navies:—
The Imperial Chinese Navy, The British, German, and French Navies.
COKE.—Foundry and Blast Furnace—Exported also to Japan and America.

For particulars as regards prices, etc., application may also be made to Johnsen & Herlofson, 8 Kiangse Road, Shanghai.

# Ragay Gulf Exploration Company

**CAPITAL STOCK ₱1,000,000. SHARES ₱2.00 EACH**

Owns **thirty-six placer claims** of over **5000 acres,** and eight lode claims, situate on the Ragay Gulf, province of Tayabas, Philippine Islands. **Also controls coal deposits** of great promise.

Preliminary tests of placer gravel show values averaging from **eighty-two centavos to two pesos per cubic yard,** and assays of lode claims show over five **percent** copper.

An expert mining engineer has been secured to make further tests, and do development work. To provide for this work a block of **twenty five thousand shares** has been placed on the market at **fifty centavos per share.**

**No further shares will be sold at this price. It is strictly a ground floor proposition, as quick returns are desired.**

Any of these properties has merits from the side of the investor. Together they constitute the best mining investment ever offered in the Philippines, if not in the world. Now is the time for you to share in all these properties: **GOLD–COAL–COPPER.**

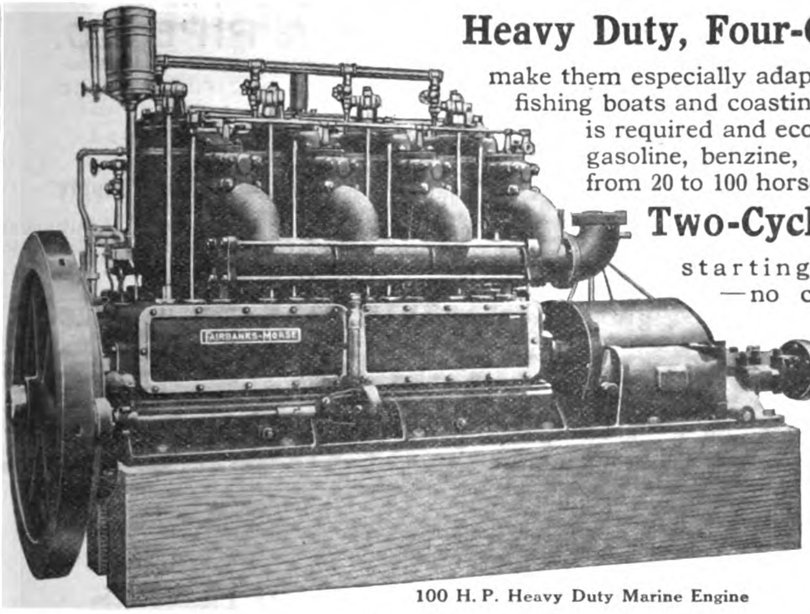
*Send your subscriptions to*

**D. R. WILLIAMS, Secretary-Treasurer**

MANILA, P. I.

**This opportunity will be short**

# Fairbanks-Morse Marine Engines



100 H. P. Heavy Duty Marine Engine

## Heavy Duty, Four-Cycle Type

Their simplicity, strength and reliability make them especially adapted for service in cruising yachts, tugs, fishing boats and coasting vessels, where hard, continuous work is required and economy of fuel is a factor. Operate on gasoline, benzine, kerosene or alcohol. Built in sizes from 20 to 100 horsepower.

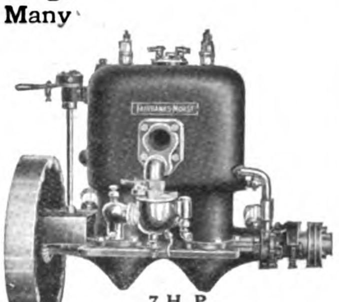
## Two-Cycle Type

3½ to 45 horse-power. Safety starting device. No trouble—no danger—no cranking. Cylinder, crank, piston, rings, pin and shaft are ground true on special machines. Large hand hole in crank case. Many other patented features found on no other engine.

3½ H. P.
**Two-Cycle Marine Engine**

## Guaranteed for One Year

Each engine is tested and must develop more than rated horsepower before it leaves the factory. When you buy ***Fairbanks-Morse*** engines you know that you are getting the best design, material and construction that can be offered.



7 H. P.
Two-Cycle Marine Engine

***Mention this publication and send at once for Catalog No. 956 TF.***

## FAIRBANKS, MORSE & CO., Chicago, Ill., U. S. A.

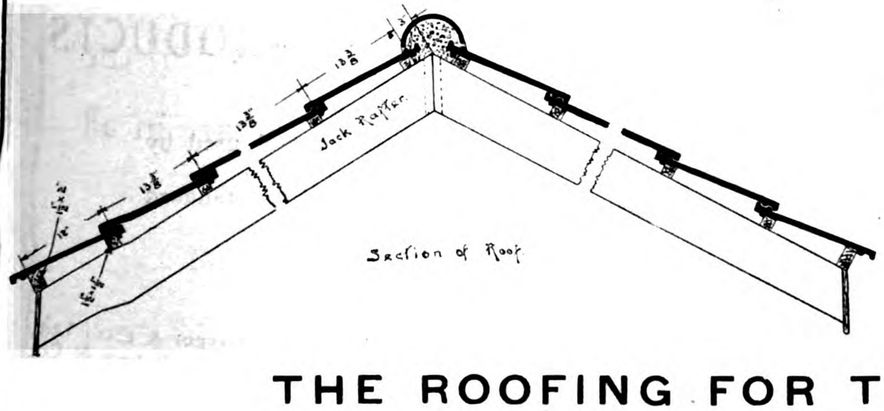
*Agents* { Manila—CASTLE BROS. — WOLF & SONS
Hong Kong—DODWELL & CO., Ltd.

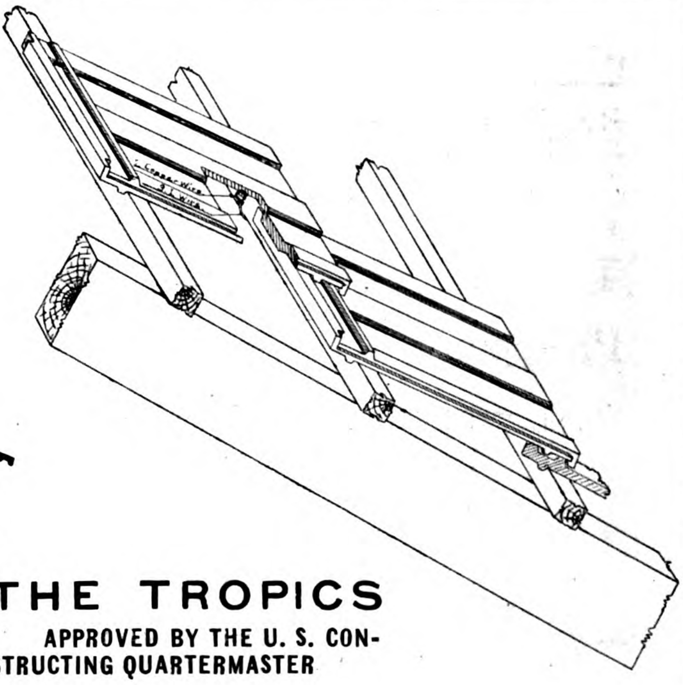
Shanghai—CHINA GENERAL ENG. CO.
Singapore—FRASER & CHALMERS, Ltd.

---

# DOUBLE INTERLOCKING REINFORCED CEMENT ROOFING TILE

PATENT APPLIED FOR



## THE ROOFING FOR THE TROPICS

ADOPTED BY THE PHILIPPINE GOVERNMENT AS ITS STANDARD || APPROVED BY THE U. S. CONSTRUCTING QUARTERMASTER

## C. FRESSEL & CO.

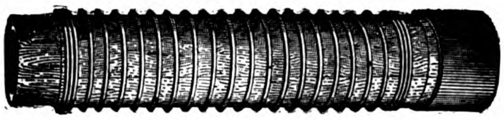
G. LUDEWIG S. EN C. SUCCESSORS

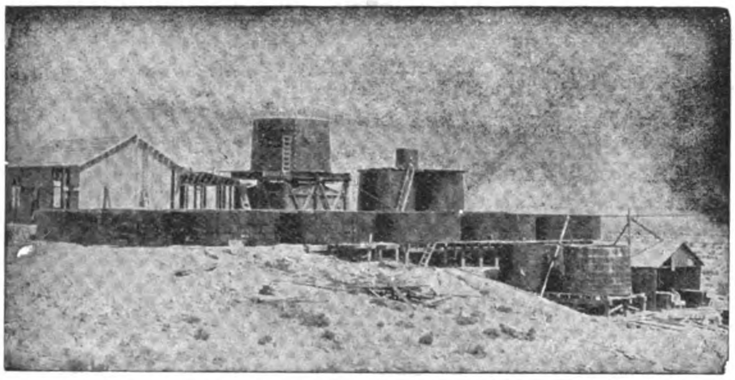
**Office: 118-122 Nueva, Binondo, Manila, P. I.**

P. O. Box 455 — Cable Address: FRESSEL. Codes Used: A. B. C. 4th and 5th Editions — Telephone 195

WHAT DO YOU KNOW ABOUT

## WOOD WATERPIPE AND TANKS?





AS MANUFACTURED BY THE

**PACIFIC TANK & PIPE CO.**

SUCCEEDING

NATIONAL WOOD PIPE CO. -:- PACIFIC TANK CO.

OUR SPECIALTIES

Wooden Water Pipe For

**Power Plants, Irrigation Systems, City Water Supply**

Machine Banded Pipe in Sizes From 2-in to 24-in. diameter. Continuous Stave Pipe In Sizes From 12-in. to 12-ft. Head. Pressures Up To 400 ft.

Send For Our Latest Printed Matter

**318 MARKET ST., SAN FRANCISCO, CAL., U. S. A.**

# LAMBERT-SPRINGER CO.

INCORPORTED

**99-107 PLAZA SANTA CRUZ, MANILA, P. I.**

SOLE AGENCIES

The Bird-Archer Company's Marine Boiler Compounds.
Johnson's Wood Finishing Specialties.
Baltimore Copper Paint Company's Prepared Paints.
Brilliantshine Metal Polish.
'Lasco" Sanitary Fixtures.
Valvoline Lubricating Oils.

**PLUMBING AND SANITARY APPLIANCES**

Hardware, Paints, Oils, Engineers' Supplies, Rubber Goods, etc.

**ARMY AND NAVY CONTRACTORS**

P. O. BOX 885
PHONE 433

CABLE ADDRESS:
LAMBERTMES, MANILA

CODES USED:
WESTERN UNION
A. B. C. 5th EDITION
AND PRIVATE

# Malthoid Roofing

AND

## P & B PRODUCTS

**MALTHOID ROOFING** is specified by the best Architects and Engineers and used by the best contractors on all notable buildings in the Far East.

**MALTHOID ROOFING** is past the experimental stage and is a recognized standard of roofing.

When laid according to our specifications it is guaranteed.

For booklet and samples write to your nearest Agent.

**FAR EASTERN AGENCIES:**

SHANGHAI - - - Messrs. Samuel, McGregor & Co., Ltd.
TIENTSIN, China - - - Messrs. William Fobes & Co.
HANKOW, China - - - Messrs. Westphal, King & Ramsay, Ltd.
HONGKONG and CANTON - - - Messrs. Arnhold, Karberg & Co.
VLADIVOSTOCK, Kharbin, Kharbarwjsk and Blagovestcheonst - - - Messrs. Kunst & Albers.
TOKYO, Kobe, Dalny and Seoul - - - Messrs. Fussiwara & Co.
SINGAPORE and PENANG - - - Paterson, Simons & Co., Ltd.
BANGKOK, Siam - - - Messrs. G. Cluzer & Co.
SAIGON - - - Messr. Allitine & Co,
Java and Dutch East-Indies "LINDETEVES Sourabaya and Samarang

**DISTRIBUTERS FOR THE PHILIPPINES**

## CALIFORNIA MANILA LUMBER COMMERCIAL CO.

**Offices: LACK & DAVIS Bldg.** **Salesrooms under HOTEL METROPOLE**

*Admirals*
*Commanders*
*Lieut.-Commanders*
*Ensigns*
*Cadets*

## "FIGHTING BOB"

*Divinos*
*Perfectos*
*Regalias*
*Bouquets*
*Londres*

*Generals*
*Colonels*
*Majors*
*Captains*
*Lieutenants*

## "JOSE RIZAL"

*Perfectos*
*Sergeants*
*Corporals*
*Privates*
*Londres*

**BY MEN WHO KNOW** the value of a good cigar, these two brands are particularly appreciated. They represent the real worth of a cigar in quality and workmanship; the two most essential features of a good smoke. They are manufactured from the most carefully selected leaf grown in the rich fields of Isabela Province, and no expense is spared in the preparation of the filler as well as the wrapper, and the result is a cigar that is as perfect as is possible to manufacture. : : : : : :

**MILD, FRAGRANT SATISFYING** Three important requisites so often found lacking in the usual run of cigars. That's why they sell. Smoke any shape in critical comparison with the best cigar you know of equal money value and prove to your own satisfaction that these cigars are a revelation of excellence in point of aroma as well as shape. Don't be put off when the dealer offer you "something just as good." Remember the money is yours, and that dealers seldom offer substitutes for your benefit. : : : : : : : : : : : : : :

FOR SALE BY ALL LEADING HOTELS, CLUBS, BARS AND FIRST CLASS CIGAR STORES

KIOSKO HABANERO
*27 ESCOLTA*

Walter E. Olsen & Co.
*MANILA, P. I.*

KIOSKO RIZAL
*168-170 ESCOLTA*

# BANCO ESPAÑOL FILIPINO

(ESTABLISHED 1851)

## Depository for the Government of the Philippine Islands

Capital Fully Paid up ........ ₱2,596,000.00
Reserve Fund .................... 408,715.63

### *London Bankers*

*THE NATIONAL BANK OF SCOTLAND, LTD.*

Buys and sells Drafts on Spain, France, Germany, England and other countries.

**TELEGRAPHIC TRANSFERS**

Interest allowed on fixed deposits and current accounts at usual rates.

**GENERAL BANKING BUSINESS**

BRANCH IN ILOILO

PRESIDENT
JOHN S. HORD

VICE-PRESIDENT
GONZALO MARZANO

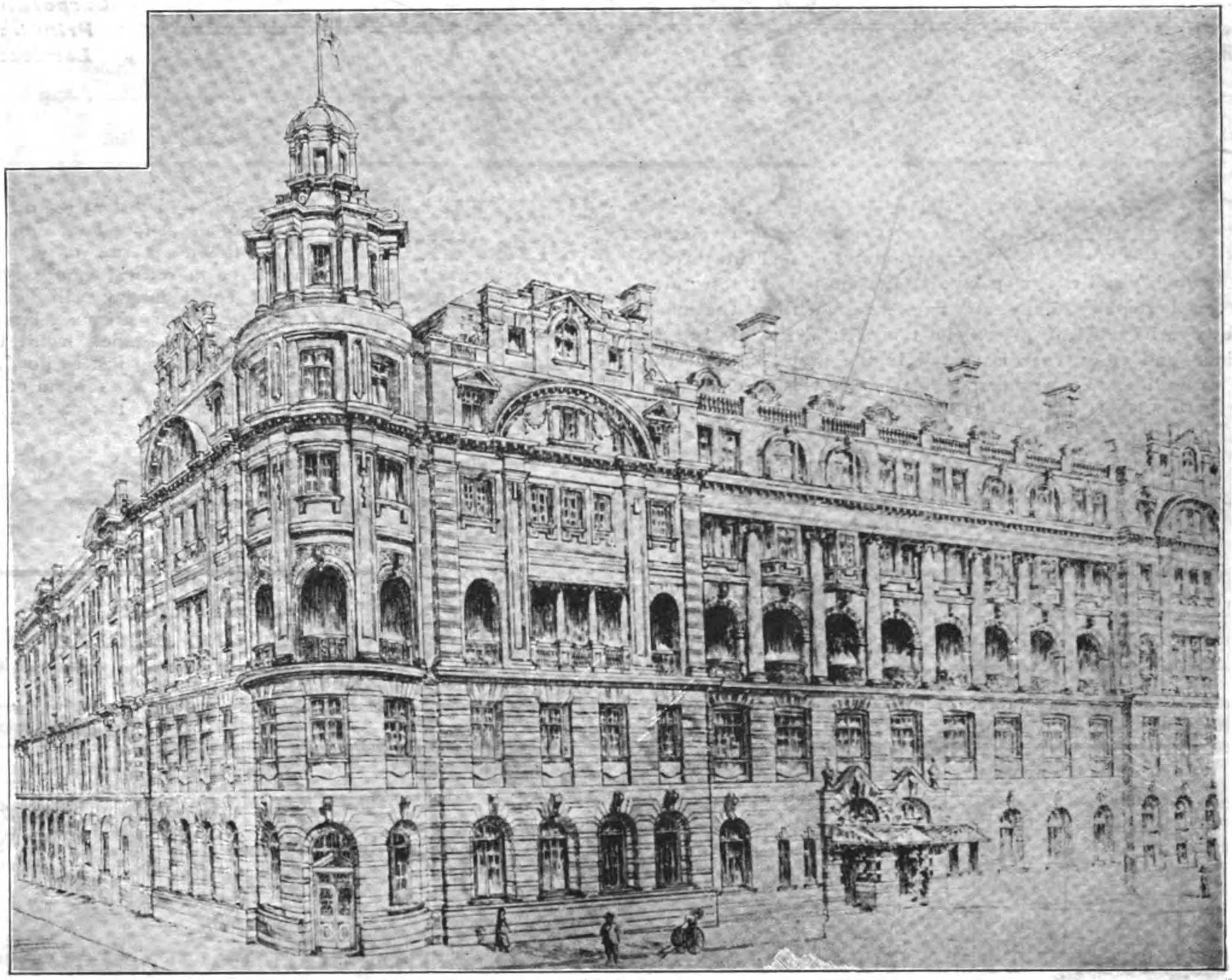
**NO. 10 PLAZA DE CERVANTES**

# ASTOR HOUSE HOTEL CO., LTD.

Cable Address:
"ASTOR" SHANGHAI
Chinese Name: "LEE-ZO"

W. BRAUEN
Manager

Codes Used:
A. B. C. 5th EDITION
WESTERN UNION



*Telephone:*

| | | | |
|---|---|---|---|
| GENERAL OFFICE . . . . . . | 200 | MANAGER'S . . . . . . . . . | 908 |
| SECRETARY'S OFFICE . . . . . . | 590 | GUESTS' . . . . . . . . . . . | 904 |

## THE WALDORF-ASTORIA OF THE ORIENT

Largest, Best and Most Modern Hotel in the Far East. Main Dining Room Seats 500 Guests, and is Electrically Cooled. Two hundred Bedrooms with Hot and Cold Baths Attached to Each Room.

Cuisine Unexcelled; Service and Attention Perfect. Summer Garden; American Bar and Billiard Room; Lounge, Smoking and Reading Rooms; Barber and Photographer on the Premises.

***Rates from $6; Special Monthly Terms***

SHANGHAI, CHINA

China, Manchuria, Japan, Indo-China, Siam, Straits Settlements, Malay States, Burma, India, Malaysia, and the Philippines

# THE FAR EASTERN REVIEW

VOL. VII.—No. 3. MANILA, SHANGHAI AND YOKOHAMA, AUGUST, 1910. 50 Centavos Philippine Currency
25 Cents, U. S. C.

H. I. H., Prince TSAI-TAO
Younger Brother of the Prince Regent and of Prince Tsai Hsun.
In Command of the Imperial Guard Corps, Now in
Foreign Countries Studying Military Affairs.


America in China

Chinese Army and Navy

General News and Comment

Manila's Water Supply and Sewage System

Pioneer Mining Enterprise in China


## ENGINEERING
## COMMERCE FINANCE

# Hongkong and Shanghai Banking Corporation

***DEPOSITORY OF THE GOVERNMENT OF THE PHILIPPINE ISLANDS***

**Capital (Paid in Cash).........$15,000,000**
**Sterling Reserve Fund..... $15,000,000**
**Silver Reserve Fund...........$15,500,000**
**Reserve Liability of Prop'rs.$15,000,000**

COURT OF DIRECTORS:

G. BALLOCH, Esq.
Chairman.
R. SHEWAN, Esq.
Deputy Chairman.
F. H. ARMSTRONG, Esq.
J. W. BANDOW, Esq.
HON. MR. HENRY KESWICK.
C. R. LENZMANN, Esq.
S. A. LEVY, Esq.
F. LIEB, Esq.
G. H. MEDHURST, Esq.
E. SHELLIM, Esq.
H. A. SIEBS, Esq.
ANDREW FORBES, Esq.

Head Office, Hongkong and Shanghai Banking Corporation, Hongkong

BRANCHES AND AGENCIES:

AMOY
BANGKOK
BATAVIA
BOMBAY
CALCUTTA
CANTON
COLOMBO
FOOCHOW
HAMBURG
HANKOW
HONGKEW (SHANGHAI)
HONG-KONG
IPOH
JOHORE
KOBE
KUALA LUMPUR
LONDON
LYONS
MALACCA
MANILA
NAGASAKI
NEW YORK
PEKING
PENANG
RANGOON
SAIGON
S. FRANCISCO
SHANGHAI
SINGAPORE
SOURABAYA
TIENTSIN
YLOILO
YOKOHAMA

CORRESPONDENTS—In Samar and Leyte: WARNER, BARNES & CO., LTD.
CORRESPONDENTS—In Cebu: KER & CO.
LONDON OFFICE—31 Lombard St.
LONDON BANKERS—London & County Banking Co., Ltd.

*Interest Allowed on Fixed Deposits at Rates which may be Learned on Application. Credit Granted on Approved Securities and Every Description of Banking and Exchange Business Transacted. Drafts Granted on London and the Chief Commercial Places in Europe, India, Australia, America, China and Japan.*

**J. R. M. SMITH, Chief-Manager - - - HONGKONG**
**A. M. REITH, Acting Manager - - - MANILA**

WADE GARDNER, Agent, 50 Wall Street, New York.
W. H. HARRIES, Agent, 401 Montgomery Street, San Francisco

# INTERNATIONAL BANKING CORPORATION

**HEAD OFFICE, 60 WALL STREET, NEW YORK**

**LONDON OFFICE, THREADNEEDLE HOUSE, BISHOPSGATE STREET, WITHIN, E. C.**

**CAPITAL PAID UP AND SURPLUS, $6,500,000.00 UNITED STATES CURRENCY**

**THOMAS H. HUBBARD, President**
**JAMES S. FEARON, Vice-President**

## BRANCHES

Bombay
Calcutta
Canton
Cebu
Colon
City of Mexico
Empire, C. J.
Hankow
Kobe
Manila
Panama
Peking
San Francisco
Shanghai
Singapore
Washington, D. C.
Yokohama

AGENCIES AND CORRESPONDENTS IN ALL PRINCIPAL CITIES OF THE WORLD
FISCAL AGENTS FOR THE UNITED STATES IN CHINA, THE PHILIPPINE ISLANDS AND THE REPUBLIC OF PANAMA
DESIGNATED DEPOSITORY FOR THE FUNDS OF THE GOVERNMENT OF THE PHILIPPINE ISLANDS
AND FOR THE FUNDS OF THE GOVERNMENT OF THE CANAL ZONE
GENERAL FOREIGN BUSINESS TRANSACTED
COMMERCIAL AND TRAVELLERS' LETTERS OF CREDIT ISSUED
BILLS OF EXCHANGE AND CABLE TRANSFERS BOUGHT & SOLD

# THE YOKOHAMA SPECIE BANK LTD.

**Capital (Paid-up): Yen 24,000,000** **Reserved Fund: Yen 15,900,000**

**HEAD OFFICE YOKOHAMA**

**PRESIDENT**

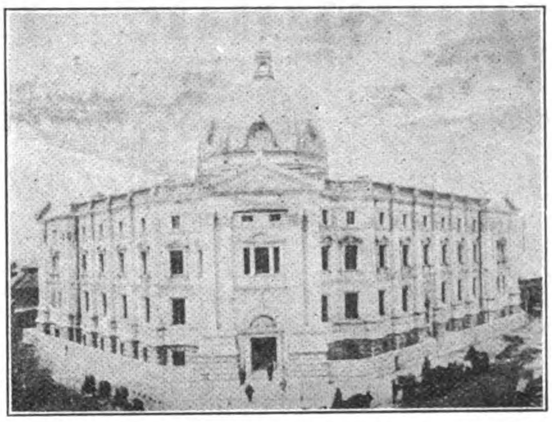
Baron Korekiyo Takahashi

**DIRECTORS**

Nagatane Soma, Esq.
Riemon Kimura, Esq.
Ippei Wakao, Esq.
Masunosuke Odagiri, Esq.
Tchunosuke Kawashima, Esq.
Kokichi Sonoda, Esq.
Rokuro Hara, Esq.
Yuki Yamakawa, Esq.
Viscount Yatako Mishima
Hyokichi Bekkey, Esq.

**GENERAL MANAGER**

Yuki Yamakaya, Esq.



HEAD OFFICE OF THE YOKOHAMA SPECIE BANK, YOKOHAMA

**HEAD OFFICE**

Every description of Banking business transacted.

For particulars, apply to the Manager.

Certified cheques on this Bank will be taken by the Custom House as cash in payment of duty.

Special Safe Deposit's Boxes are provided in the Vault of the Bank.

T. Kawashima, Manager

Yokohama, September, 1909.

**BRANCHES AND AGENCIES:**

Tokyo, Nagasaki, New York, Bombay, Hankow, Peking, Dairen (Dalny), Tiehling, Osaka, London, San Francisco, Hongkong, Newchwang, Liaoyang, Antung-Hsien, Kobe, Lyons, Honolulu, Shanghai, Tientsin, Ryojun (Port Arthur), Fengtien (Mukden), Changchun

Correspondents at all the chief commercial cities in the world.

**LONDON BANKERS:**

*Parr's Bank, Ltd.*
*Union of London & Smith's Bank, Ltd.*
*London Joint Stock Bank, Ltd*

# RUSSO-CHINESE BANK

**Organized under Imperial Decree 10th December, 1895**

**Capital** ................ **Rbs. 15,000,000 / Sh.Tls. 2,000,000**
**Capital contributed by Chinese Government** **K. Taels 5,000,000**
**Reserve Fund** ... .... **Roubles 5,612,000**

Head Office: ST. PETERSBURG.
London Office: 41 THREADNEEDLE ST. E. C.

BRANCHES AND AGENCIES:

*Andijan, Armavir, Askhabad, Barnaoul, Batoum, Blagowestchensk, Bombay, Boukhara, Busk, Calcutta, Chefoo, Colombo, Hailar, Hankow, Harbin, Hongkong, Irkutsk, Karachi, Kashgar, Kerki, Khabarovsk, Khokand, Kiachta, Kouldja, Krasnoiarsk, Kuanchendzel, London, Marguelan, Merw, Moscow, Namangan, Newchwang, New York, Nicolaievsk o/Amoor, Nicolsk-Oussourisk, Nijni-Novgorod, Novo-Nicolaievsk, Novo-Ourguentch, Oust-Tcharychsk-Pristane, Paris, Peking, Samarkand, San Francisco, Semipalatinsk, Shanghai, Stretensk, Tatarskala, Tashkend, Tchita, Tchougoutchak, Tientsin, Tsitsikar, Verchneoudinsk, Verny, Vladivostock, Yakoutsk, Yokohama*

Tel. Address: SINORUSSE, SHANGHAI.

**Bankers**

**London—Messrs. Glyn, Mills, Currie & Co.**
**Paris—Comptoir National d'Escompte de Paris, Banque de Paris et des Pay Bas**
**Berlin—Messrs. Mendelssohn & Co.**
**Hamburg—Messrs. M. M. Warburg & Co.**
**Vienna—K. K. priv. Oesterr. Credit Anstalt fur Handel & Gewerbs.**
**Amsterdam—Messrs. Lippmann, Rosenthal & Co.**

Interest allowed on Current Accounts in Taels at the rate of 2 per cent. per annum on the daily balance

Fixed Deposits in Taels and Dollars. Terms on application.

Local Bills discounted. Special facilities for Russian Exchange. Foreign Exchange on the principal cities of the world bought and sold.

**H. AUBERT, L. JEZIERSKI, Managers for China & Japan.**

# Deutsche-Asiatische Bank Shanghai

**Berlin, Calcutta, Hankow, Hamburg, Hongkong, Peking, Tientsin, Tsinanfu, Tsintau, Yokohama, Kobe, Singapore.**

**PAID-UP CAPITAL** ............ **SH. TLS. 7,500,000**

*Founded in 1889 by the following Banks and Bankers:*

Koenigliche Seehandlung (Preussische Staatsbank), Berlin.
Direction der Disconto-Gesellschaft, Berlin.
Deutsche Bank, Berlin.
S. Bleichroder, Berlin.
Berliner Handels-Gesellschaft, Berlin.
Bank fur Handel & Industrie, Berlin.
Robert Warschauer & Co., Berlin.
Mendelssohn & Co., Berlin.
M. A. von Rothschild & Sohne, Frankfurt o/M.
Jacob S. H. Stern, Frankfurt o/M.
Norddeutsche Bank in Hamburg.
Sal. Oppenheim jun. & Co., Cologne.
Bayerische Hypotheken & Wescheel Bank, Munich.

*London Bankers:*

Messrs. N. M. Rothschild & Son.
Union of London & Smith's Bank, Ld.
Deutsche Bank (Berlin), London Agcy.
Direction der Disconto-Gesellschaft.

*New York Agents:*

Schulz & Ruckgaber, 15 William Street

Every Description of Banking and Exchange Business Transacted.
Interest allowed on Current Accounts at 2 per cent per annum on the daily balance. Current accounts kept in taels and dollars.
Interest allowed on Fixed Deposits according to arrangement.
Local Bills discounted.
Every description of Banking and Exchange Business transacted.

R. Timmerscheidt, *Manager*,
Shanghai.

# A NEW EL DORADO

## The Philippine Islands

*A Virgin Field Awaiting The Investor. Rich in Minerals, Hardwoods, and Agricultural Products*

Gold Production Increased 150% last year
Coal and Oil Fields Being Developed
Vast Deposits of Copper and Iron

**40,000,000 Acres of the Finest Hardwoods on Earth**

**We Raise** Hemp, Copra, Rubber, Tapioca, Sugar, Tobacco, Coffee, Maguey, and all other Products of Tropical Climes

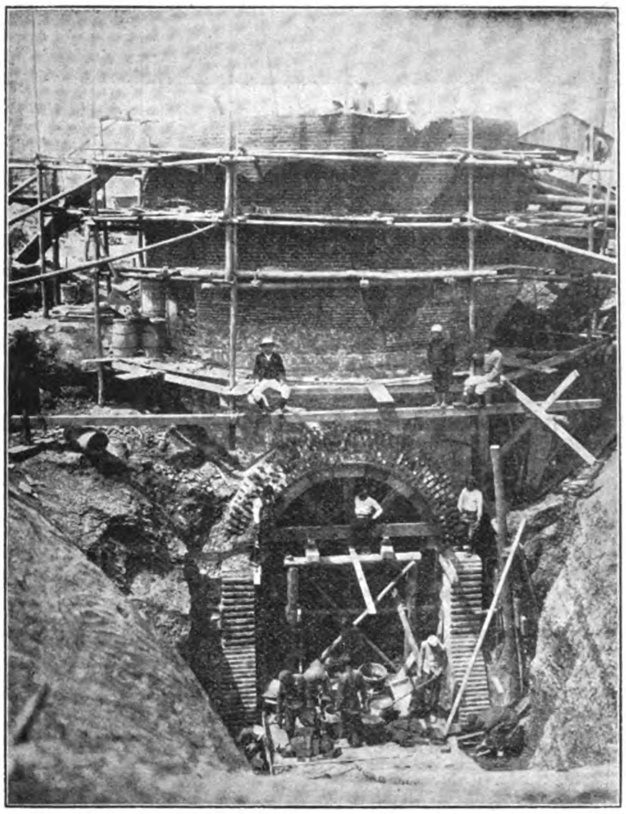
*No Other Land on Earth Offers a More Inviting Field for Capital*

**Write to the Publicity Committee**

THE MANILA MERCHANTS' ASSOCIATION

FOR INFORMATION

# FUSHUN COAL



SINKING SHAFT AT OYAMA PIT, FUSHUN COLLIERY

## The Best Steaming Coal in the Far East

### Output 3,000 tons per day

Fresh stocks always on hand at Dairen, Newchwang & Tientsin Depots and also at Chefoo, Shanghai, Hongkong, Singapore and Penang.

MINING DEPARTMENT,

## South Manchuria Railway Company

DAIREN

Tel. Add. "Mantetsu," Codes: A.B.C. 5th Ed., A. I & Lieber's

Agents: MITSUI & COMPANY

## THE CHINESE ENGINEERING AND MINING CO., LIMITED

Head Office: TIENTSIN.
SHANGHAI, Jinkee Road.
HONGKONG, Alexandra Buildings

CHEFOO: Anz & Co.
WEIHAIWEI: Lavers & Clark.
HANKOW: C. Monbaron, Esq.
DALNY: Cornabe, Eckford & Co.
TSINGTAU, NEWCHWANG, MUKDEN: Arnhold, Karberg & Company.
PEKIN: V. Redelsperger, Esq.
SINGAPORE: Adamson, Gilfillan & Company, Ltd.

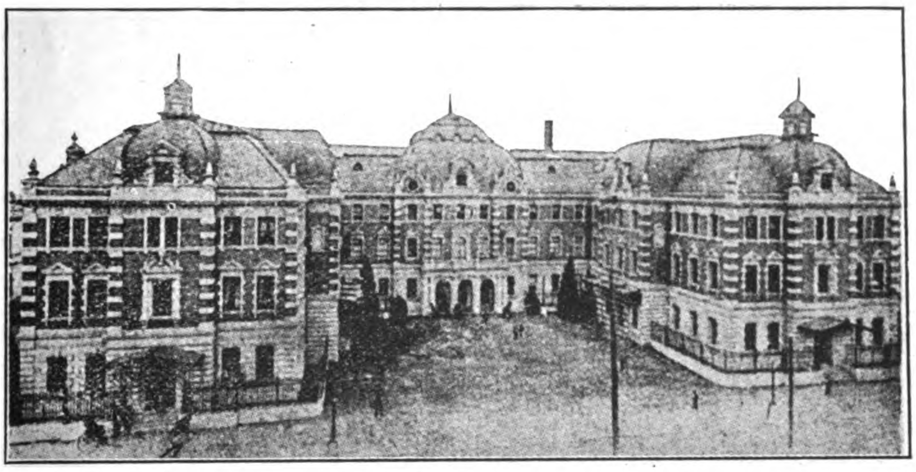
AGENCIES

The addresses of the Company's Agencies are as follows:

| | | | Telegraphic Address. |
|---|---|---|---|
| TIENTSIN | C. E. & M. Co., Ltd., Office | | MAISHAN |
| TONGKU | do. | | MAISHAN |
| CHINWANGTAO | do. | | MAISHAN |
| HONGKONG | do. Alexandra Buildings | | MAISHAN |
| SHANGHAI | do. 1 Jinkee Rd. | | SILI |
| CHEFOO | Anz & Co. | Agents | MAISHAN |
| DALNY | Cornabe, Eckford & Co. | ,, | CORNABE |
| WEIHAIWEI | Lavers & Clarke | ,, | MAISHAN |
| TSINGTAU | Arnhold Karberg & Co. | ,, | MAISHAN |
| NEWCHWANG | Arnhold Karberg & Co. | ,, | MAISHAN |
| MUKDEN | Arnhold Karberg & Co. | ,, | MAISHAN |
| HANKOW | C. Monbaron | ,, | MONBARON |
| SINGAPORE | Adamson, Gilfillan & Co., Ltd. | ,, | GILFILLAN |
| PEKING | J. Redelsperger | ,, | REDELSPERGER |
| LONDON | C. E. & M. Co., Ltd., Office 22 Austin Friars E. C. | | KAIMACS |
| BRUSSELS | do. 48 Rue de Namur | | KAIPING |

General Telegraphic Address: "MITSUI"

A B C, 5th edition and A1 Codes used



THE MITSUI BUILDING, TOKIO,
Containing the offices of the Mitsui Family Council, The Mitsui Mining Co., The Mitsui Bank, and The Mitsui Bussan Kaisha

# THE MITSUI BUSSAN KAISHA

## (MITSUI & CO. IN EUROPE AND AMERICA)

## HEAD OFFICE: Surugacho, Tokio, Japan

**President:** Hachirojiro Mitsui, Esq.

**Directors:** Senjiro Watanabe, Esq.; Giichi Iida, Esq.; Sankichi Komuro, Esq.; Kenzo Iwahara, Esq.; Jotaro Yamamoto, Esq.

**Home Branch Offices:** Yokohama, Moji, Kuchinotsu, Nagoya, Wakamatsu, Miike, Osaka, Karatsu, Taipeh, Kobe, Nagasaki.

**Branch Offices in Asia:** Tientsin, Newchwang, Shanghai, Bombay, Singapore.

**London Branch Office:** Mitsui & Co., Lime Street.

**New York Branch Office:** Mitsui & Co., 445 Broome Street.

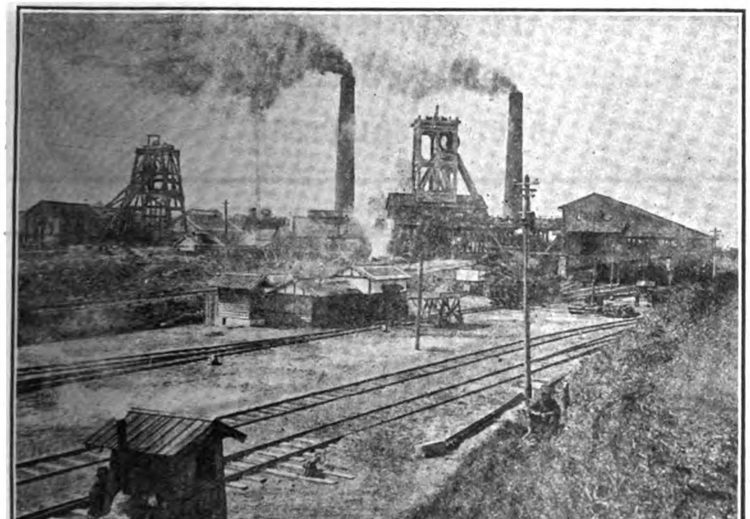
**Agents:** Hamburg, Canton, Calcutta, Bangkok, Foochow, Harbin, San Francisco, Amoy, Dairen, Tsingtau, Saigon, Sourabaya, Hankow, Seoul, Antung, Sydney, Manila, Chefoo, Chemulpo, Rangoon, Vladivostock, etc.

## IMPORT, EXPORT AND COMMISSION MERCHANTS

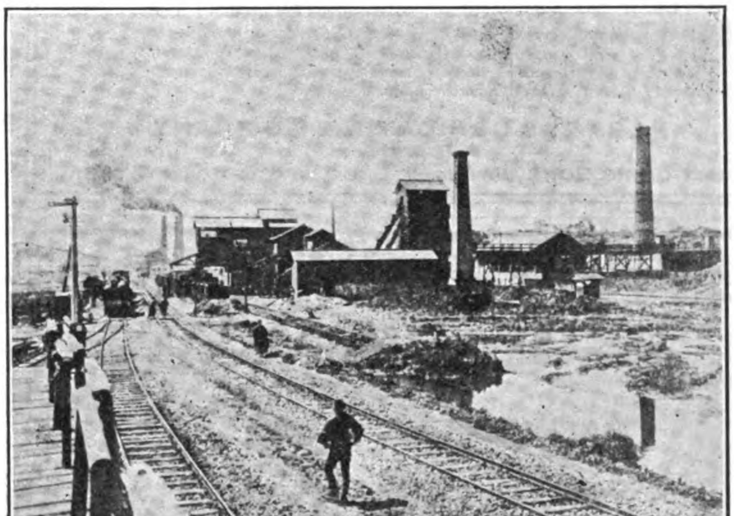
**CONTRACTORS OF COAL** to the Imperial Japanese Navy and Arsenals, the State Railways, Principal Railway Companies, Industrial Works, the United States Army Transport Service, and Home and Foreign Mail and Freight steamers.

**SOLE PROPRIETORS** of the famous Miike, Tagawa, Yamano and Ida Coal Mines, and Sole Agents for Hondo, Kanada, Kishima, Mameda, Mannoura, Ohnoura, Ohtsuji, Sasahara, Tohmiyama, Tsubakuro, Yoshio, Yunokibara, Takae, Fushun and other Coals.

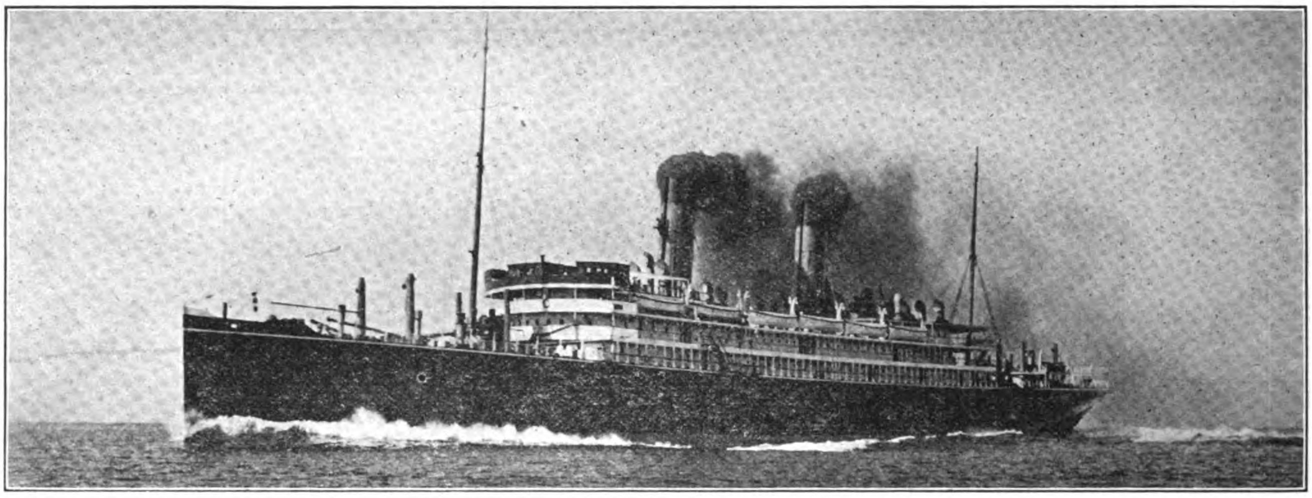
**IMPORTERS AND EXPORTERS** of Cotton, Cotton Yarn, Cotton Piece Goods, Book-binding Cloth, Copper, Silver, Tin, Lead and other Metals, Railway Materials, Acids, Camphor, Flour, Cereals, Manure, Opium, Isinglass, Mushrooms, Sugar, Wax, Vermicelli, Sulphur, Hemp, Beer, Cement, Cigarettes, Matches, Paper, Hides, Leather Belts, Teak and other Timbers, Machinery, etc.



MIYANOHARA PIT, MIIKE MINE



WASHING PLANT, MIIKE MINE



S. S. "CHIYO-MARU"

TRANS-PACIFIC TURBINE DRIVEN PASSENGER STEAMER "CHIYO-MARU" FOR T. K. K.—Built and engined by the Mitsu Bishi Dockyard and Engine Works, Nagasaki, November 1908.—Length (overall), 570 feet 0"; Breadth, moulded, 63 feet 0"; Depth (shelter deck), 46 feet 6"; Gross tonnage, 13,426 tons; Displacement, 18,725 tons; Engines, Parsons' Three Shaft Arrangement; Boilers, Single Ended Scotch Boilers (13); I. H. P., 19 591; Speed, 21 knots. (This photo was taken on her full speed trials the 13th October, 1908.)

# MITSU BISHI DOCKYARDS & ENGINE WORKS, NAGASAKI

| DOCK NO. 1. | | | DOCK NO. 2. | | | DOCK NO. 3. | | |
|---|---|---|---|---|---|---|---|---|
| EXTREME LENGTH . . . . . . | 523 | FT. | EXTREME LENGTH . . . . . . | 371 | FT. | EXTREME LENGTH . . . . . . | 722 | FT. |
| LENGTH ON BLOCKS . . . . . . | 513 | „ | LENGTH ON BLOCKS . . . . . | 360 | „ | LENGTH ON BLOCKS . . . . . | 714 | „ |
| WIDTH OF ENTRANCE ON TOP . . | 88 | „ | WIDTH OF ENTRANCE ON TOP . . | 66 | „ | WIDTH OF ENTRANCE, TOP . . . | 99½ | „ |
| „ „ „ „ BOTTOM . | 77 | „ | „ „ „ „ BOTTOM . | 53 | „ | „ „ „ BOTTOM . | 88½ | „ |
| WATER ON BLOCKS AT SPRING TIDE | 26½ | „ | WATER ON BLOCKS AT SPRING TIDE | 22 | „ | WATER ON BLOCKS AT SPRING TIDE | 34½ | „ |

## THE BEST EQUIPPED SHIPBUILDING PLANT IN THE FAR EAST,

WITH SPECIAL FACILITIES FOR HANDLING THE HEAVIEST CASTINGS AND THE REPAIRING OR BUILDING OF SHIPS, ENGINES AND BOILERS, ALSO ELECTRICAL WORK.

LARGE STOCK OF MATERIAL, AND FITTINGS ALWAYS ON HAND

THE POWERFUL SALVAGE STEAMER "OURA-MARU" (712 TONS, 700 I. H. P.) EQUIPPED WITH NECESSARY PUMPS AND GEAR, IS ALWAYS READY AT SHORT NOTICE.



## Have you ever stopped

*to consider that a lubricant that splashes or drips increases the fire risk of a building?*

Increased fire risk means *increased fire insurance rates.*

## ALBANY GREASE

**neither splashes nor drips.**

That's why five underwriters will allow a *lower* rate on buildings containing machinery lubricated with ALBANY GREASE than on buildings containing oil lubricated machinery.

ALBANY GREASE effects many other economies. That's why it's the *cheapest* of all lubricants to *use.*

*You can readily prove, at our expense, what an all-around economical lubricant ALBANY GREASE is for all machinery. Just send us pipe tap, depth of oil hole, where used and name of firm. An Albany Grease cup and trial package of ALBANY GREASE will come to you free.*

ALBANY LUBRICATING COMPANY

***Sole Makers***

ADAM COOK'S SONS, ***Props.*** 313 WEST ST., NEW YORK,



# THE WEN MING PRESS

88 HONAN ROAD, SHANGHAI

HIGH GRADE HALF TONES, ZINC ETCHINGS, ETC.

TYPE FOUNDRY, PRINTERS AND LITHOGRAPHERS

ALL WORK DONE

SKILFULLY AND AT MODERATE PRICES.

ORDERS SOLICITED



# HOTELS

WHERE TO LIVE AT MANDALAY

UPPER BURMA

SALWEEN HOUSE

AND

TENASSERIM HOUSE

Entire satisfaction guaranteed, as the numerous testimonials from both residents and tourists testify.

TELEGRAPHIC ADDRESS: "SALWEEN"



P. O. Box 194

# C. S. NICHOLSON

GENERAL BROKER

9 P. MORAGA. MANILA, P. I.

# THE KAWASAKI DOCKYARD CO., LTD.

## DAIREN

Cable Address: "DOCK," Dairen
Codes: AI and A. B. C. 5th Ed.

**PAID UP CAPITAL: -Y-10,000,000**

THE DAIREN BRANCH has a DRY DOCK and fully equipped MACHINE and TOOL SHOPS, an IRON & BRASS FOUNDRY and other Auxiliary Works. It undertakes general CASTING WORK and the construction and repair of all kinds of VESSELS, BOILERS, ENGINES and other MACHINERY.

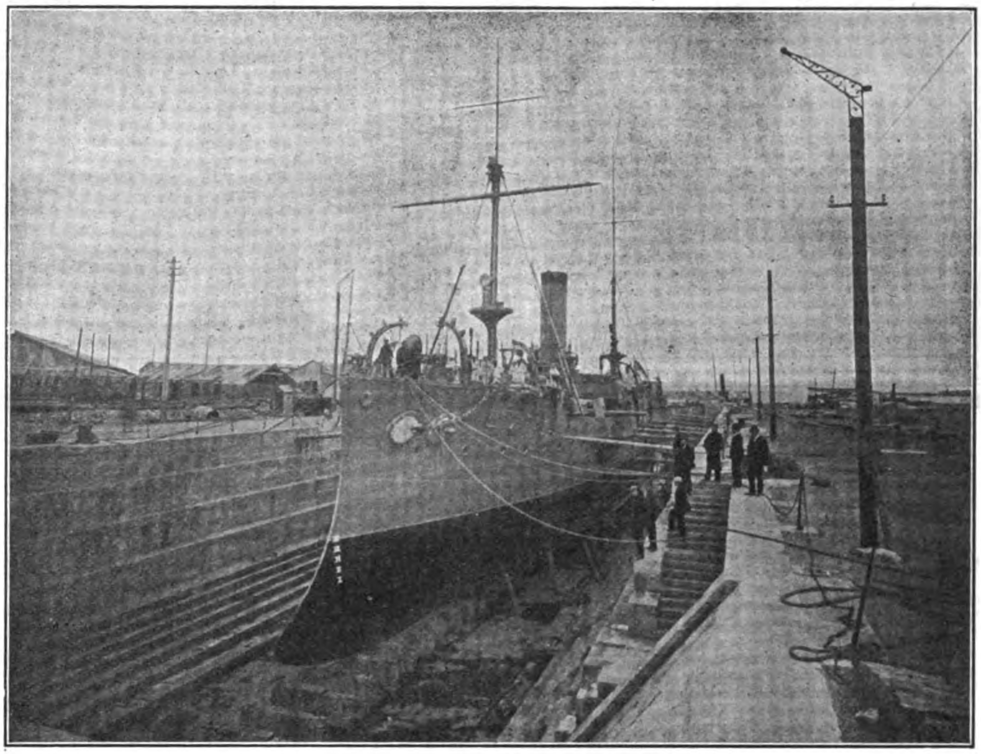
Powerful Salvage & Towing Boats will be supplied at Shortest Notice.

All work guaranteed to be of the highest order and to be of the most up-to-date improvements. All orders immediately attended to.

**DOCK**

| | |
|---|---|
| Length | 380 ft. |
| Width | 50 ft. |
| Depth over Sill | 20 ft. |

**DOCKING CHARGES VERY MODERATE**



GRANITE DRY DOCK, DAIREN



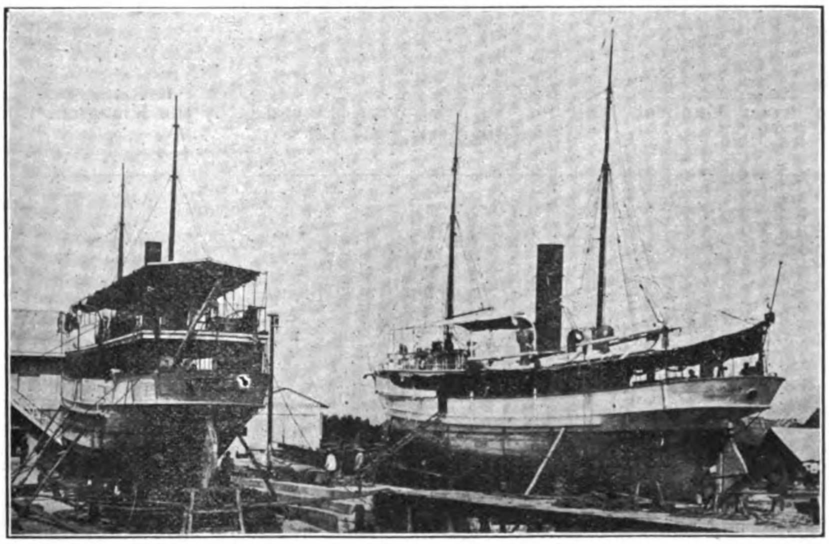
# MANUEL EARNSHAW & CO., LTD.

## MARINE ENGINEERS

15 BARCELONA ST., MANILA

REPAIRS TO SHIPS, BOILERS, ENGINES, ETC.

LAUNCH BUILDERS, FOUNDERS IN IRON, BRASS, ETC.



MARINE SLIPWAY

P. O. BOX NO. 282

TELEPHONE 213

Telegraphic Address: "MEARNSHAW" MANILA

Codes:
A. B. C., 5th Edition
Engineering Telegraph Code and Supplement; Western Union

FOUNDRY AT 151 REINA REGENTE

SLIPWAY AT CAVITE

# KIANGNAN DOCK AND ENGINEERING WORKS

**Directors:**

**ADMIRAL SAH**
IMPERIAL CHINESE NAVY

**KWONG KWOH WAH**
TAOTAI

**Manager:**

**R. B. MAUCHAN**

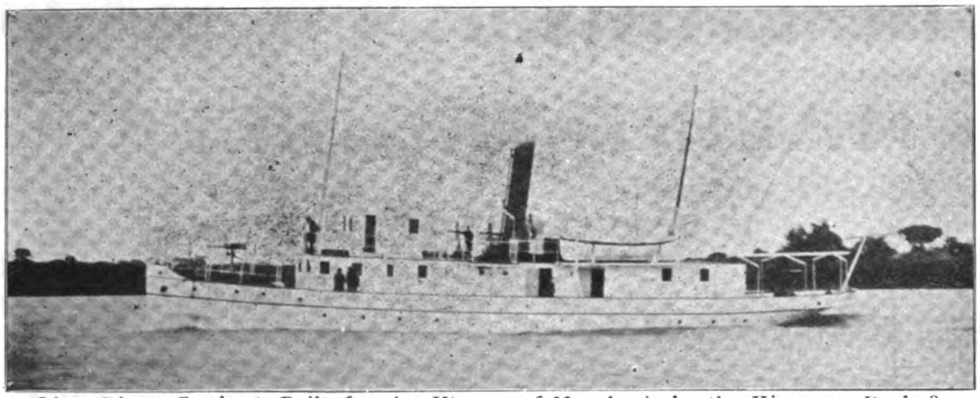
## KIANGNAN DOCK

Length over all, 385′; length on blocks, 375′; water on sill, 19′; dock entrance, top, 70′, bottom, 60′.

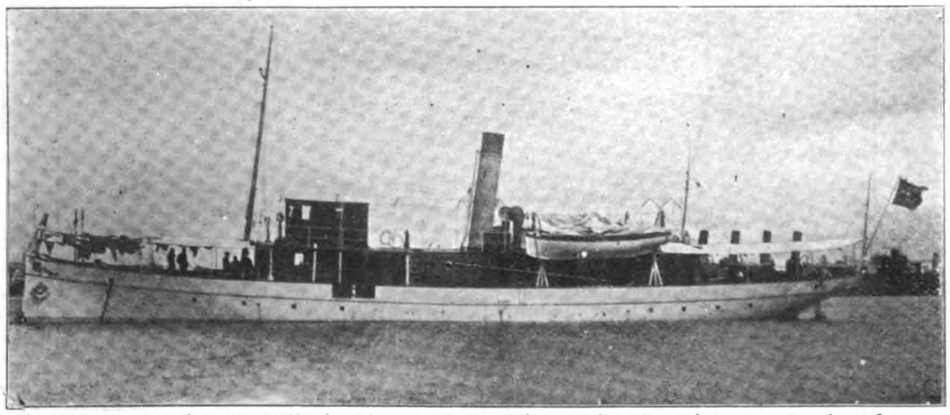
The dock accommodates the largest coasting steamers and is equipped with complete modern facilities for handling work thoroughly and promptly.

The new machine and boiler shops, and the foundry and shipbuilding plant are equal to any this side of Suez.

Yangtsze River Pirate Chaser, Built by the Kiangnan Dock & Engineering Works for the Viceroy of Nanking



Liao River Gunboat Built for the Viceroy of Manchuria by the Kiangnan Dock & Engineering Works



River Patrol Boat Built for the Szechuan Viceroy by the Kiangnan Dock and Engineering Works

Cable Address:

**"SINODOCK"**

Codes:

**A. B. C. 5TH EDITION, ENGINEERING, LIEBER'S, STANDARD**

**CONTRACTORS FOR REPAIRING, DOCKING AND REFITTING THE VESSELS OF THE IMPERIAL CHINESE NAVY AND THE IMPERIAL MARITIME CUSTOMS**

Patent slipway for small steamers and launches. Complete boat and launch building shops.

# TAIKOO DOCKYARD & ENGINEERING Co. OF HONGKONG, LTD

**Engineers, Boilermakers, Repairers**

WORKS COVER AN AREA OF 53 ACRES

DRY DOCK 787 FT. × 88 FT. DEPTH 34½ FT.

SLIPWAYS
NO. 1 1030 FT.
NO. 2 993½ FT.
NO. 3 993½ FT.

WORKS & GENERAL OFFICES QUARRY BAY HONGKONG

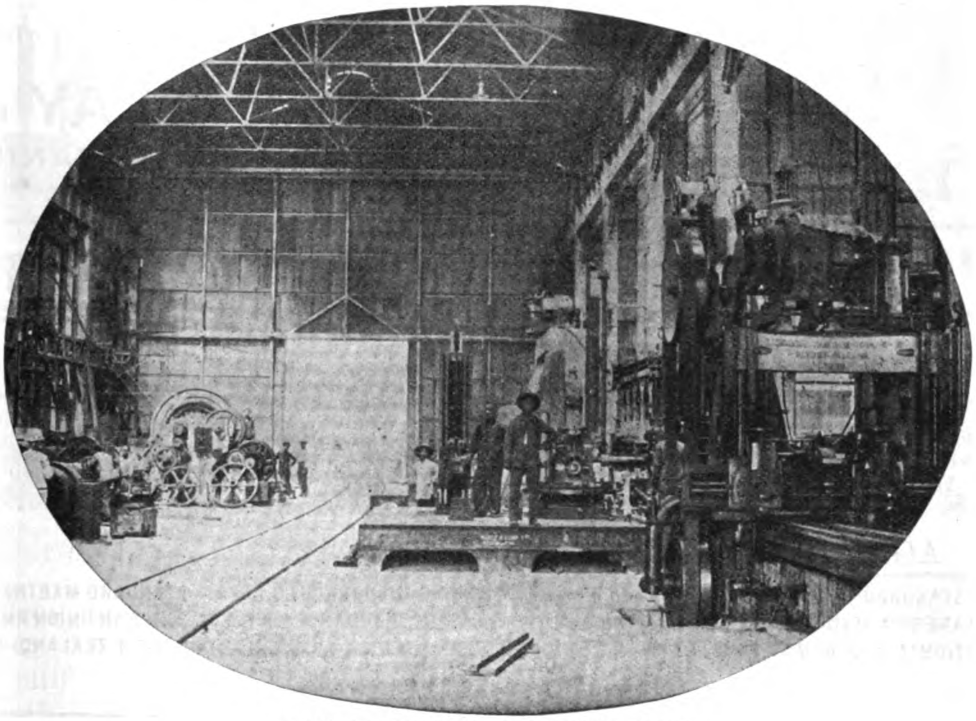
Telegrams: Temseloof London; Taikoodock Hongkong

**Builders** OF PASSENGER AND CARGO STEAMERS, TURBINE STEAMERS, STEAM YACHTS, ALL TYPES OF WAR VESSELS STEAM LAUNCHES MOTOR BOATS TUGS AND LIGHTERS

A SECTION OF THE YARD SHEWING TURBINE STEAMSHIP "CHIYO MARU" 13,600 TONS IN DRY-DOCK, TWO COASTING STEAMERS ON SLIPWAYS, AND VESSEL LYING ALONGSIDE THE SEAWALL

## THE BUILDING YARD IS LAID OUT WITH FURNACES AND PLANT SUITABLE FOR BUILDING VESSELS UP TO 20,000 TONS

GENERAL MANAGERS
**John Swire & Sons**
8 BILLITER SQUARE, LONDON



VIEW OF PORTION OF MACHINE SHOPS

AGENTS IN HONGKONG, CHINA AND JAPAN
**Butterfield & Swire**

THE POWER FOR THE ESTABLISHMENT is generated by Gas Producers, on the Mond System, supplying 4 Cockerill Gas Engines of 3,000 collective horse power, driving Electrical Generators, and is transmitted throughout the Works by means of Electrical Motors.

AN ELECTRIC DERRICK CRANE capable of lifting weights up to 100 tons, is erected on the Sea Wall, and 14 Electric Overhead Travelling Cranes ranging from 5 tons to 100 tons, are fitted throughout the Workshops.

AGENTS IN MANILA AND PHILIPPINE ISLANDS

**CASTLE BROS.-WOLF & SONS**

THE DOCK PUMPS consist of 2 sets of Centrifugal, Electrically driven, pumps, together capable of emptying the Dock with 35 feet of water on the Cill in 2¾ hours.

THE MACHINERY in the Engine Works is laid out for dealing with the heaviest classes of Engines.

THE SLIPWAY CARRIAGES are of the latest pattern by Morton of Leith, and the Winding Gear consists of large electrically driven winches operating massive wire cables.

TENDERS SUBMITTED AND ESTIMATES GIVEN FOR BUILDING AND REPAIRING ALL CLASSES OF VESSELS; ALSO FOR EVERY DESCRIPTION OF ENGINE AND BOILER, MECHANICAL, ELECTRICAL AND CONSTRUCTIONAL WORK

# HONGKONG & WHAMPOA DOCK CO., LTD.
## HONGKONG

Telegraphic Address: **Manifesto Hongkong.**
Dock Owners, Ship Builders, Marine and Land Engineers, Boiler Makers, Iron and Brass Founders, Forge Masters, Electricians.

All classes of CONSTRUCTIONAL and GENERAL ENGINEERING WORK undertaken, also LOCOMOTIVES, RAILWAY ROLLINGSTOCK and PLANT, BRIDGES etc.

COAST and RIVER STEAMERS, TUG BOATS and LAUNCHES, SHALLOW DRAFT VESSELS and STERN WHEEL STEAMERS.

AUXILIARY MACHINERY for MARINE and LAND Purposes.

LAND and MARINE BOILERS of all sizes and classes.

GALVANIZING by the Electrical process.

IRON and BRASS CASTINGS of all descriptions.

FORGINGS in IRON and STEEL for SHIPS, ENGINES, and LAND WORK, large and small.

We make a specialty of HIGH SPEED MOTOR BOATS for PASSENGER and CARGO Traffic.

ALL CLASSES of COCKS, VALVES and FITTINGS in IRON and BRASS supplied.

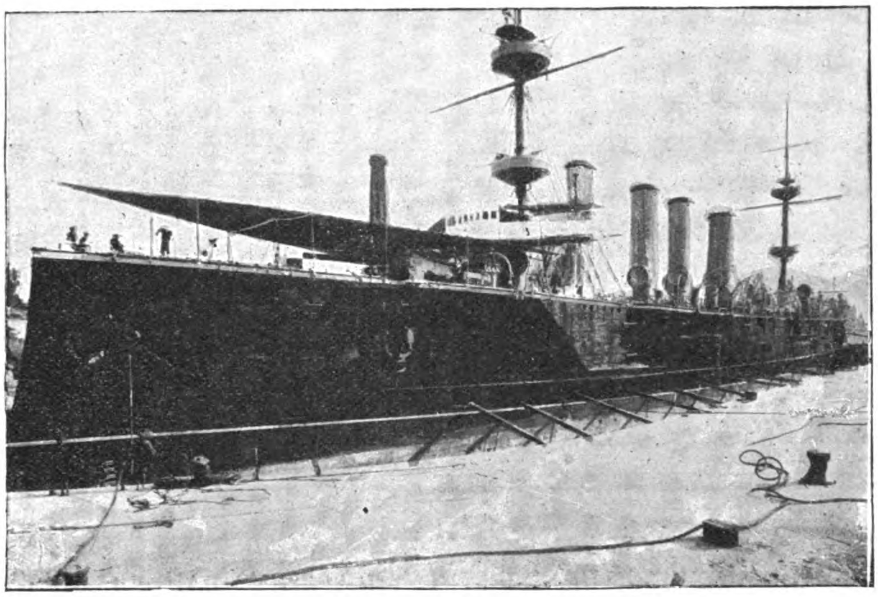
BOLTS, NUTS and RIVETS MANUFACTURED at SHORT NOTICE.

FINISHED NUTS in BRASS and IRON.

A LARGE STOCK of STEEL and IRON PLATES, BARS and ANGLES, always in hand.

The Company possesses SIX GRANITE DOCKS and TWO PATENT SLIPWAYS and these are equipped for EXPEDITIOUS WORK. Our plant is of the most modern type throughout.

Ship Owners and Captains are assured that DOCKING and REPAIRS are carried out PROMPTLY and at MODERATE CHARGES.



H. M. S. POWERFUL IN No. 1 DOCK, KOWLOON.

The Dimensions of Docks and Slips are as follows:--

| Name of Dock or Slip | Length on Keel Blocks | Entrance Breadth | Depth Over Sill at Ordinary Spring Tides | Rise of Tide | |
|---|---|---|---|---|---|
| | | | | Springs | Neaps |
| **KOWLOON** | Feet | Feet | Feet | Feet | Feet |
| No. 1 Dock, Kowloon......... | 700 | 86 ft. top / 70 ft. bottom | 30′ | 7′ 6″ | 3 |
| No. 2 Dock, Kowloon. ....... | 371 | 74′ | 18′ 6″ | 7′ 6″ | — |
| No. 3 Dock, Kowloon......... | 264 | 49′ 3″ | 14′ | 7′ 6″ | — |
| Patent Slip, No. 1, Kowloon... | 240 | 60′ | 14′ | 7′ 6″ | — |
| Patent Slip, No. 2, Kowloon... | 220 | 60′ | 12′ | 7′ 6″ | — |
| **TAI-KOK-TSUI** | | | | | |
| Cosmopolitan Dock........... | 466 | 85′ 6″ | 20′ | 7′ 6′ | — |
| **ABERDEEN** | | | | | |
| Hope Dock.................. | 430 | 84′ | 23′ | 7′ 6″ | — |
| Lamont Dock................ | 333 | 64′ | 16′ | 7′ 6″ | — |

Please Address Enquiries to the Chief Manager, R. M. DYER, B. Sc., M. I. N. A., Kowloon Dock, Hongkong

Telephone No. 13 K. Head Office, Kowloon.

Town Office, Queen's Buildings Telephone No. 20, Hongkong

## FINDLAY & CO.
### AGENTS, MANILA, P. I.

# W. F. STEVENSON & CO., LTD.

ILOILO MANILA CEBU

MERCHANTS

## STEAMSHIP AGENCIES

**BOSTON STEAMSHIP COMPANY—BOSTON TOW BOAT COMPANY—"BEN" LINE OF STEAMERS—"INDRA" LINE OF STEAMERS—NORTHERN PACIFIC STEAMSHIP COMPANY—PENINSULAR AND ORIENTAL STEAM NAVIGATION CO. - - - - - - -**

## INSURANCE AGENCIES

**LIFE, STANDARD LIFE ASSURANCE CO.—MARINE, MARINE INSURANCE CO., LTD.—STANDARD MARINE INSURANCE CO., LTD.—BRITISH AMERICA ASSURANCE CO.—FIRE, NORWICH UNION FIRE INSURANCE SOCIETY—SCOTTISH UNION AND NATIONAL INSURANCE CO.—NATIONAL ASSURANCE COMPANY OF IRELAND—BRITISH AMERICA ASSURANCE CO.—NEW ZEALAND INSURANCE CO. - -**

4 MUELLE DEL REY, MANILA, P. I.

# Johnson-Pickett Rope Co.

PURE MANILA ROPE

MADE WITH LATEST IMPROVED ROPE MACHINERY

**Average Breaking Load After Three Tests:**

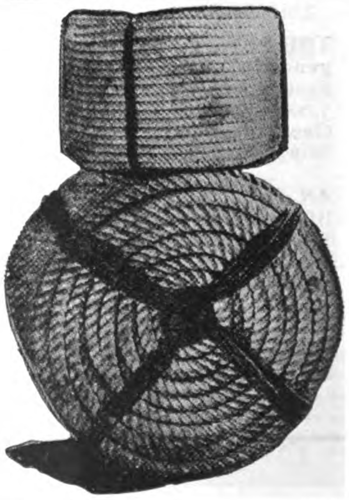
2 Inch Rope Circumference........ 4,037 Pounds
3½ " " " ........ 16,670 "
5 " " " ........ 23,728 "

Factory and Salesroom.
Cor. Vives and Lara, Murallon,
San Nicolas, Manila, P. I.

TELEPHONE
1123

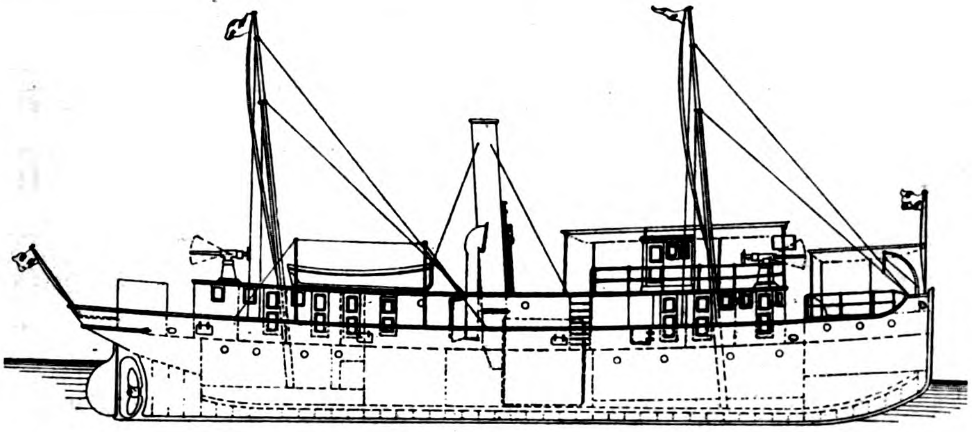
Cable Address: SANTAROPE
Code: Western Union, Universal Edition.

CORRESPONDENCE SOLICITED



ENGINEERS, MACHINISTS and FOUNDERS

SHIPBUILDERS, BOILERMAKERS ELECTRICIANS



I. C. M.'S GUNBOAT "KAI-HAI" BUILT BY THE NEW ENGINEERING AND SHIPBUILDING WORKS, LTD. SHANGHAI, FOR SERVICE IN NORTH CHINA: SPEED, 11 KNOTS

COAST AND RIVER STEAMERS, TUGBOATS, LAUNCHES, LIGHTERS, PONTOONS, SHALLOW DRAFT SIDE OR STERN WHEEL STEAMERS. ENQUIRIES SOLICITED. PLANS, SPECIFICATIONS AND ESTIMATES FURNISHED. ALL CLASSES OF ENGINEERING WORK UNDERTAKEN

# THE NEW ENGINEERING AND SHIPBUILDING WORKS, LTD.

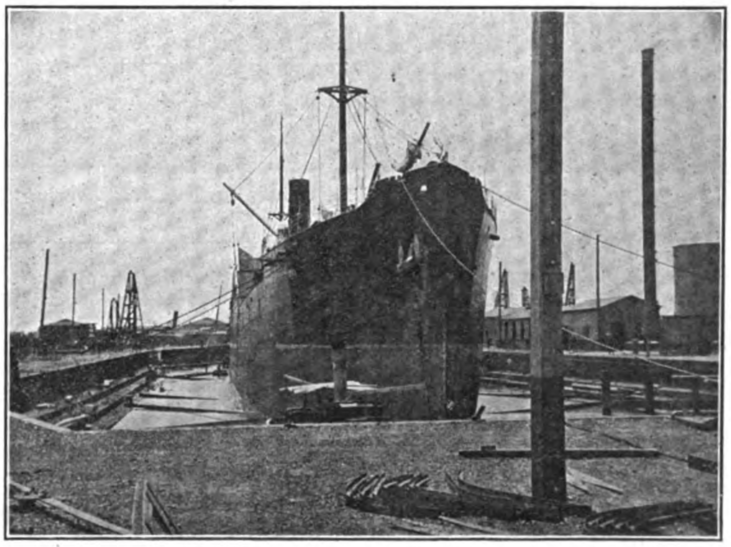
SHANGHAI

PROPRIETORS OF THE

# YANGTSZEPOO DOCK

THE DOCK, WORKS AND OFFICE ARE LOCATED ON THE SHANGHAI SIDE OF THE RIVER, 15 MINUTES BY ELECTRIC TRAM FROM HEART OF THE CITY

THE WORKS ARE EQUIPPED WITH THE MOST MODERN MACHINERY, CAPABLE OF HANDLING THE LARGEST MARINE ENGINEERING WORK



VIEW OF YANGTSZEPOO DOCK

PARTICULARS OF DOCK
LENGTH ON BLOCKS 455′0″
„ OVERALL - 469′0″
WIDTH, ENTRANCE 74′0″
„ SILL - - 64′0″
DEPTH ON SILL, (H. W. O. S. TIDES) - - - 21′0″
DEPTH ON 3′0″ BLOCKS (H. W. O. S. TIDES) 19′0″
PUMPS CAN EMPTY DOCK WITHOUT VESSEL IN, IN 3½ HOURS.
WORKSHOPS LOCATED AT HEAD OF DOCK

OFFICE, DOCK & WORKS, 37 YANGTSZEPOO ROAD, SHANGHAI

TELEGRAPHIC ADDRESS: "SPEEDY." CODE: A.B.C., 5TH EDITION — TELEPHONE 703. — MANILA AGENT, F. L. STRONG

# THE SHANGHAI DOCK AND ENGINEERING CO., LTD.

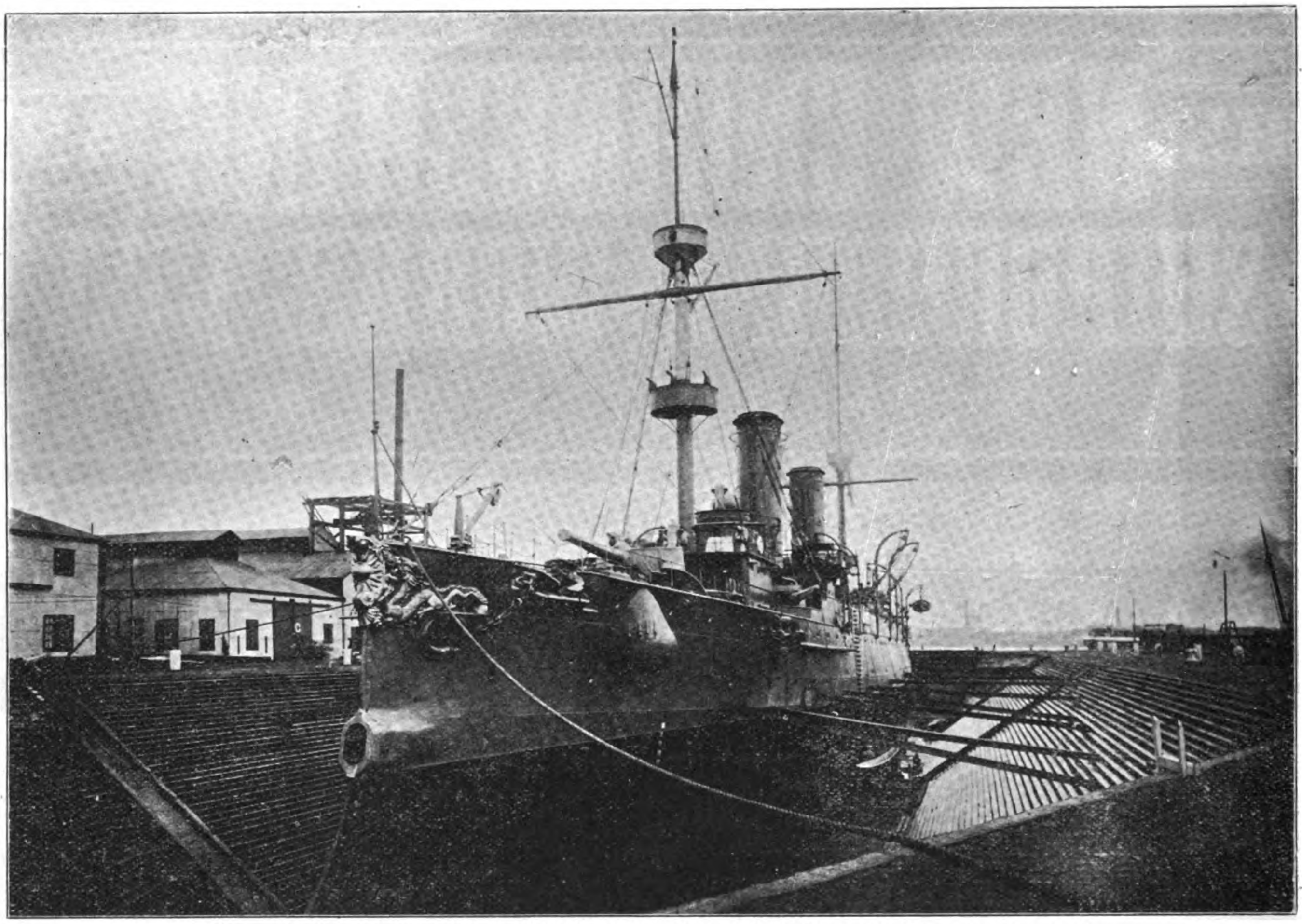
DOCK OWNERS ENGINEERS

SHANGHAI
CHINA

SHIP BUILDERS FOUNDERS

Cable Address:
"FARNHAM," SHANGHAI

Codes Used:
A I., A B C (4th & 5th Editions)
Watkin's, Scott's, Western
Union and Engineering

The HAI-CHI in the "OLD DOCK" of the Shanghai Dock & Engineering Co., Ltd.


The Docks are five in number, ranging in length from 360 feet to 560 feet, and breadth of entrance from 57 feet to 82 feet, with the depth of water on the sill from 16 feet to 24 feet.

The Dock charges are very moderate.

The Water Frontage is about 1½ miles in length. Wharves and Pontoons are arranged where steamers can moor during repairs; and slips for hauling up small vessels are provided. Sheer legs capable of lifting 65 tons are placed at the various Docks.

The extensive Shipbuilding yards and workshops are provided with the latest improvements in tools, traveling cranes of 70 tons' capacity, hydraulic and pneumatic machinery.

Lit up by Electric light with railway lines through workshops and yards.

Powerful salvage appliances can be supplied at short notice. Enquiries immediately attended to.

Estimates given for all classes of work; Coast Steamers, Side and Stern-Wheelers, Tugboats, Launches, Steam Barges, Dredgers, Floating Cranes, and Lighters a speciality.

Every description of repairs and renewal work undertaken and expeditiously executed.

Land and Marine Engines and Boilers, Centrifugal, Mining, and other pumping machinery always in stock or in progress, also power driven Machine Tools, Engineer's Hand Tools, Steam, Gas, Oil, and Electric machinery and engineering accessories generally.

## CORRESPONDENCE INVITED

TYPE OF HIGH SIDE GOODS WAGONS

CONSTRUCTED BY THE VULCAN IRONWORKS, LTD., FOR THE NANKING CITY RAILWAY

# Railway Coaches and Goods Wagons Assembled Structural Steel Work Erected

ESTIMATES given for every description of Engineering and Constructional work and repairs, including supplying and installing of HOT WATER and STEAM HEATING in all its branches and HOT and COLD WATER SUPPLIES.

THE WORKS are electrically driven, and are equipped throughout with up-to-date machinery and labour saving devices, including an HYDRAULIC PLANT, and appliances to undertake constructing or repairing SHIPS, ENGINES, BOILERS, etc.

EXPERIENCED EUROPEAN STAFF SUPERVISES ALL BRANCHES OF WORK

# VULCAN IRONWORKS, Ltd.

ENGINEERS, SHIPBUILDERS, BOILERMAKERS, ELECTRICIANS, IRON AND BRASS FOUNDERS, ETC.

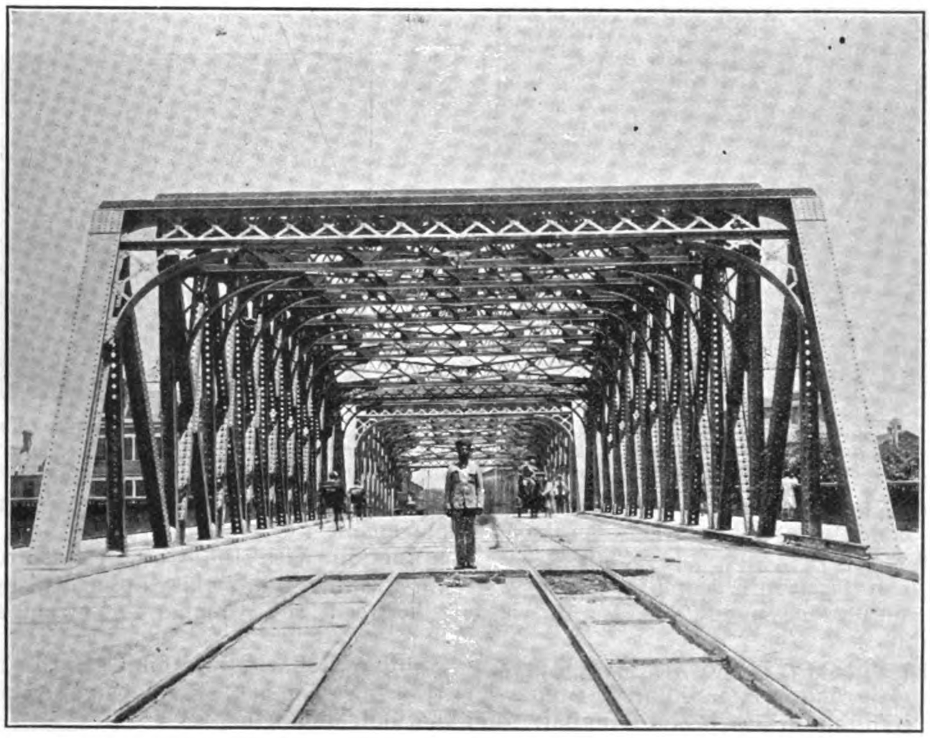
Office and Works: 45 YANGTSZEPOO ROAD, SHANGHAI

# PATTON'S IRONHIDE PAINT

A PROTECTIVE COATING FOR IRON AND STEEL

PREVENTS CORROSION CAUSED BY DAMPNESS, SULPHUROUS FUMES AND OTHER DELETERIOUS GASES

Tough Elastic Durable



THE RUSTLESS COATING FOR

STRUCTURAL IRON WORK, STEEL CARS, TRAIN SHEDS, IRON PARTS OF ROLLING STOCK

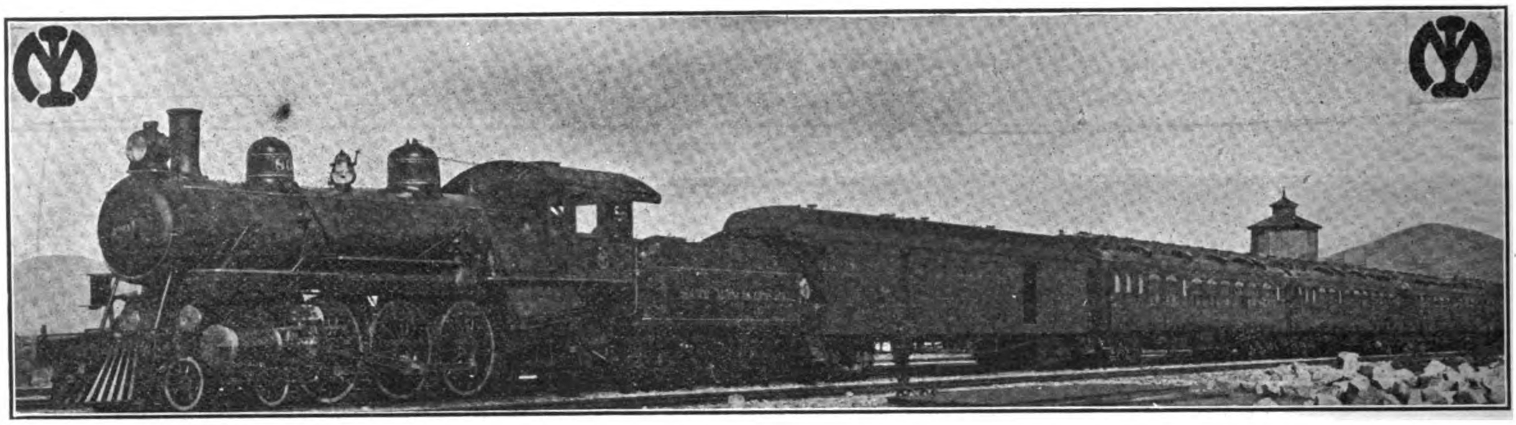
BRAKE RODS, TRUSS RODS, TRUCKS, AND BRIDGES, SUBJECTED TO SEVERE VIBRATORY STRAINS, SHOULD ALWAYS BE COATED WITH PATTON'S

"IRONHIDE"

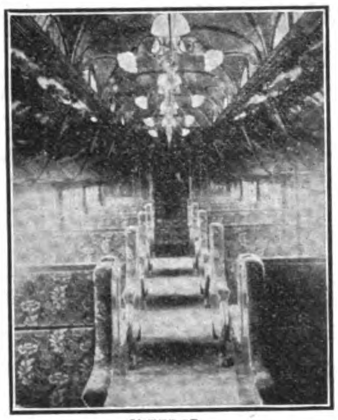
FEARON, DANIEL & CO.

Sole Agents for CHINA, HONGKONG, JAPAN AND PHILIPPINES

SHANGHAI, NO. 9 FOOCHOW ROAD



# South Manchuria Railway



SLEEPER

**SHORTEST AND QUICKEST ROUTE BETWEEN THE FAR EAST AND EUROPE, VIA DAIREN**

INTERIOR PULLMAN DAY COACH

**Main Railway Line** THRICE WEEKLY EXPRESS TRAIN SERVICE, composed of excellently equipped Sleeping, Dining and 1st class Cars, is operated between Dairen and Changchun in connection with the Trans-Siberian Express Trains and with Shanghai Mail Steamers.

## BRANCH RAILWAY LINES

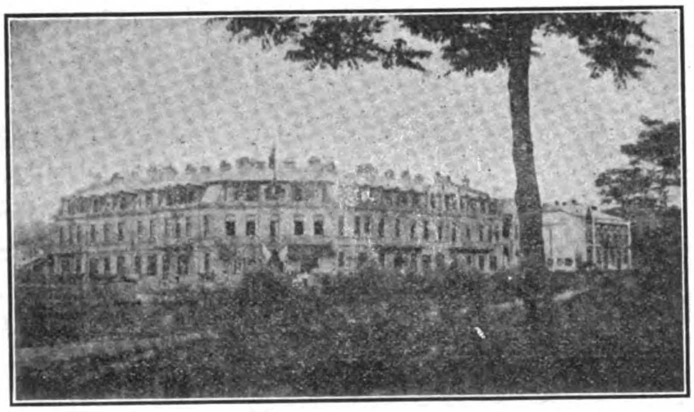
RYOJUN LINE—For Ryojun (Port Arthur), 1½ hours from Dairen.

YINGKOU LINE—For Yingkou (Newchwang), 40 minutes from Tashihchiao Junction.

FUSHUN LINE—For the famous Fushun Colliery from Suchiatun Junction.

ANTUNG LINE—A light railway from Mukden to Antung connecting with the Korean Railway.

DAIREN-SHANGHAI DIRECT STEAMER SERVICE—is maintained TWICE-WEEKLY by the S.S. "Kobe Maru" and "Saikio Maru" (2,877 tons each).



SOUTH MANCHURIA RAILWAY, YAMATO HOTEL, PORT ARTHUR

YAMATO HOTEL, DALNY

**TICKET AGENTS** The International Sleeping Car & Express Trains Co. and Messrs. Thos. Cook & Son.

**RAILWAY HOTELS** YAMATO HOTEL (Tel. Add.: "Yamato") At Dairen, Port-Arthur and Changchun, and shortly at Mukden, all under the Company's management.

**THROUGH PASSENGER TICKETS**—In conjunction with the Chinese Eastern Railway, Imperial Government Railways of Japan, the Imperial Railways of North China, the Osaka Shosen Kaisha and the Company's own steamers. Through Passenger Tickets are issued between the Company's principal stations and the undermentioned points:—

**NORTH MANCHURIA & SIBERIA:** Ashiho, Habarovsk, Hailar, Harbin, Manchouli, Nicolsk-Ussurisk, Pogranitchnaia, Shuangchengpu, Tsitsihar, Taolaichao, Vladivostock, Yaomen.

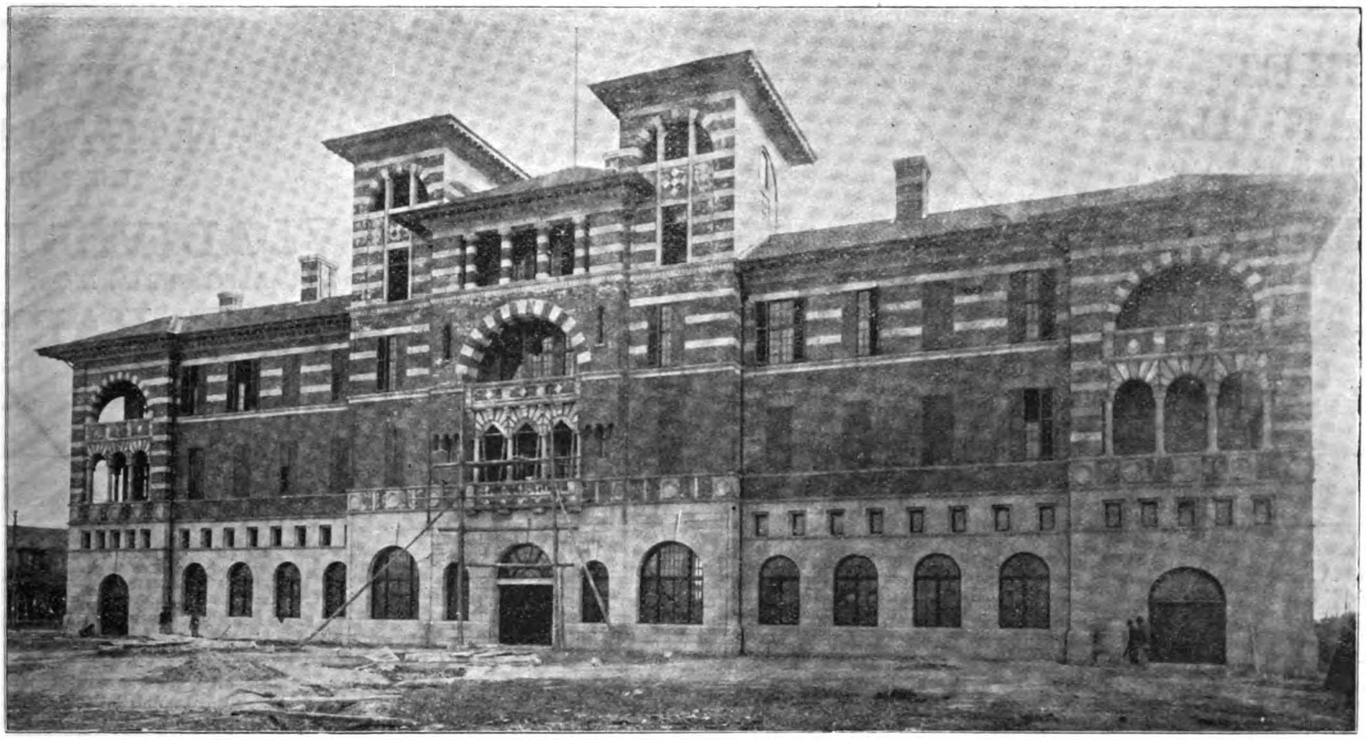
**CHINA:** Hsinminfu, Peking, Shanghai, Shanhaikuan, Tientsin.

**JAPAN:** Hakata, Hiroshima, Kioto, Kobe, Kumamoto, Moji, Nagasaki, Nagoya, Osaka, Shimonoseki, Tokyo, &c.

## SOUTH MANCHURIA RAILWAY COMPANY, Dairen

**Tel. Add.: MANTETSU -:- Codes: A. B. C., 5th Ed., A1 and Lieber's**

# *The Line of a Hundred Pagodas*



NEW STATION AND ADMINISTRATION BUILDING AT SHANGHAI

PASSENGERS TO THE YANGTSZE RIVER PORTS SHOULD TAKE THE STEAMER AT NANKING, THUS ENJOYING A TRIP THROUGH THE INTERESTING LAND OF PAGODAS AND "THE GARDEN OF CHINA." NANKING, THE SOUTHERN CAPITAL OF CHINA, WITH ITS MANY INTERESTING SIGHTS, THE CELEBRATED MING TOMBS, AND OTHER ATTRACTIONS, CAN BE SEEN IN TWO DAYS' TRIP FROM SHANGHAI. THE FIRST AND SECOND CLASS COACHES OF THE S-N. RAILWAY COMPARE WITH THE BEST IN EUROPE OR AMERICA FOR COMFORT AND SERVICE. TWO EXPRESS TRAINS DAILY.

# CHINESE EASTERN RAILWAY

## STEAMER & EXPRESS SERVICE

FAR EAST — EUROPE

**TICKET OFFICES**

**SHANGHAI**
8 KIUKIANG ROAD

**PEKING**
AMBASSADOR'S STREET

**NAGASAKI**
THE BUND

**VLADIVOSTOK**
ALEUTSKAIA, No. 37

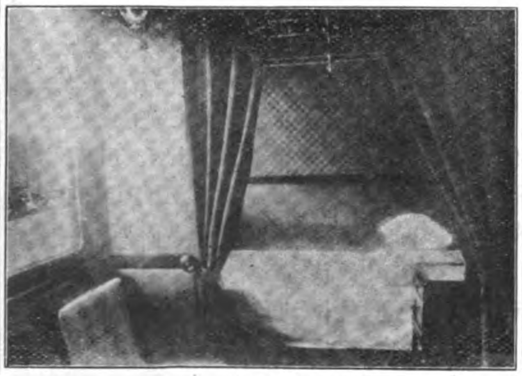
**HEAD OFFICES AT HARBIN**

## STEAMER AND TRAIN TIME TABLE

| STEAMERS | | Free Time Between the Arrival of Steamer and Departure of Train | TRAINS | | | |
|---|---|---|---|---|---|---|
| DEPARTURE | ARRIVAL AT VLADIVOSTOCK | | DEPARTURE FROM VLADIVOSTOK | ARRIVE IRKUTSK | ARRIVE MOSCOW | ST. PETERSBURG |
| | | | (Harbin Time) | (St. Petersburg Time) | | |
| SHANGHAI Saturday*.......... | Thursday, 9.00 .................... | 31.25 hours | Friday, 4.25 ..... | Tuesday, 1.29... | ..................... | Monday, 6.00 |
| NAGASAKI Monday, 6.00...... | do do .................... | 31.25 " | Friday, 4.25..... | Tuesday, 1.29... | ..................... | Monday, 6.00 |
| TSURUGA Saturday 5.00 | Monday 11.00 ............... | 29.25 " | Tuesday 4.25.. | Saturday, 1.29. | Friday, 7.06...... | ..................... |
| TSURUGA Thursday 5.00 | Saturday 11.00 ............... | 29.25 " | Sunday 4.25.. | Thursday, 1.29.. | Wed., 7.05....... | ..................... |

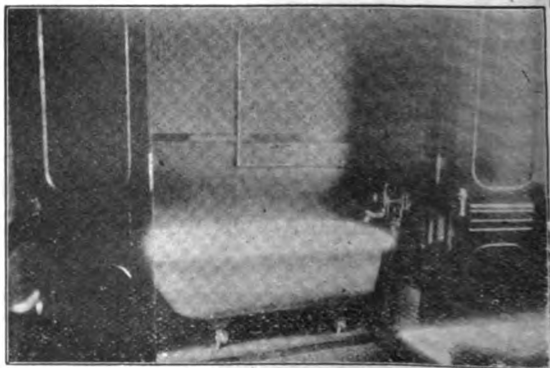
The hours of departure depend upon the tide. The express trains of the Chinese Eastern Ry. Co. leave Vladivostock on Fridays and Sundays. The express leaving on Fridays connect at Irkutsk with the express State trains running between Irkutsk and St. Petersburg via Vologda-Viatka. The Chinese Ry. Co.'s expresses consist of luggage car, restaurant car, two second and one first class cars, and are provided with a 1st class kitchen and servants speaking English and French.

### THE COMFORTS OF THE CHINESE EASTERN EXPRESS



SLEEPING ROOM

DINING CAR



BATH ROOM

# SIEMENS SCHUCKERT

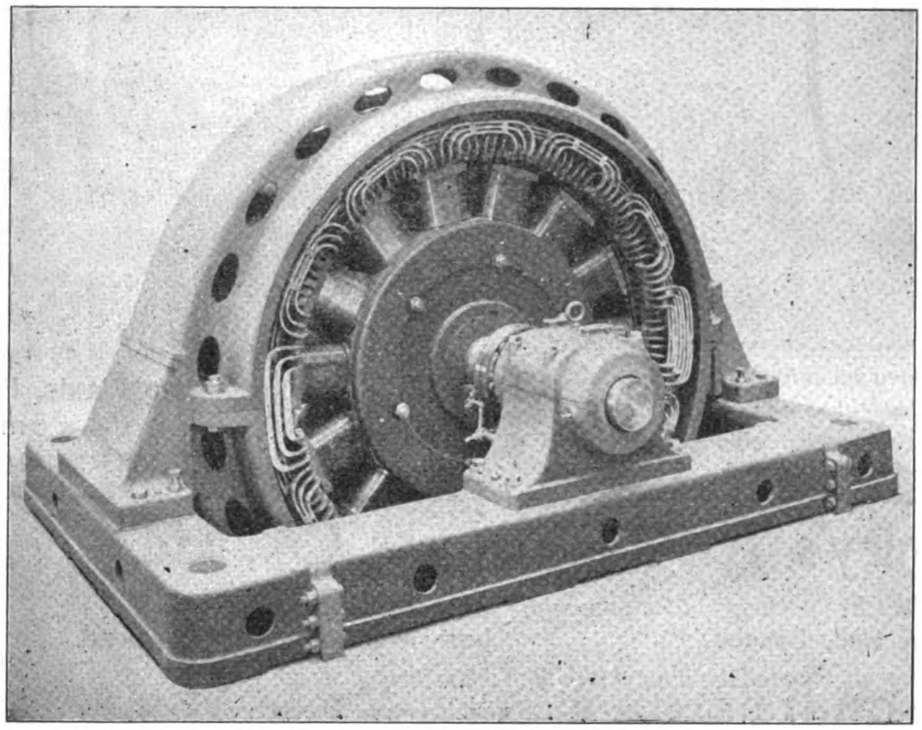
## MANUFACTURERS OF EVERYTHING ELECTRICAL

CHINA BRANCH HEAD OFFICE: AT SHANGHAI, SZECHUEN ROAD AND JINKEE ROAD CORNER
SUB-AGENCIES: AT TSINGTAO, HANKOW AND TIENTSIN, WITH A LARGE STAFF OF EFFICIENT ELECTRICAL ENGINEERS

Representing the Siemens Companies:

SIEMENS BROTHERS DYNAMO WORKS - - - London-Stafford
SIEMENS BROTHERS & COMPANY - - - - London-Woolwich
SIEMENS & HALSKE A. G. - - - - - - Berlin-Nonnendamm
GEBRUEDER SIEMENS & CO. - - - - - - Berlin-Lichtenberg
SIEMENS-SCHUCKERTWERKE G. m. b. H. - - Berlin-Nuernberg

Cable Address: FOR SHANGHAI, HANKOW & TIENTSIN, "MOTOR;" FOR TSINGTAU, "SIEMENS"
Codes used: PRIVATE, LIEBER'S AND A-I.



DIRECT COUPLED THREE-PHASE ALTERNATING CURRENT

## DYNAMO

**as installed at Mukden, Kirin, Soochow, Luanchow Mines and Tsingtau by Siemens-Schuckert-China-Branch**

***Plans and Estimates given for all descriptions of Electrical Machinery and Apparatus on short notice***

### COMPLETE EQUIPMENTS FOR

*Lighting, Power and Traction Plants—Electrical Pumping, Winding and Hauling Plants—Builders of the "Zoelly" Steam Turbine—Manufacturers of Telephone, Telegraphic and Roentgen Ray Apparatus, Watermeters, Ozone Machines, Cables, Glow-lamps, Batteries, Electric and Gasoline Motor-Cars.*

**WIRELESS TELEGRAPHY INSTALLATIONS, SYSTEM TELEFUNKEN**

19 SZECHUEN RD.
SHANGHAI
Telephone, 1944
Telegrams:
"GOLDFLOWER"
Codes: A. B. C., 5th Ed. Lieber's and Engineering

# DAVID W. BELL
## SHANGHAI CHINA

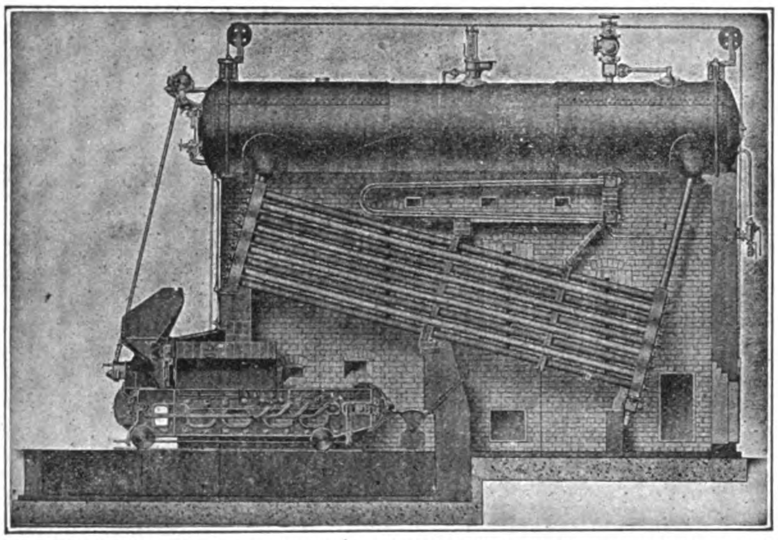
SOLE REPRESENTATIVE IN CHINA FOR THE FOLLOWING FIRMS

## BABCOCK & WILCOX, LIMITED

PATENT WATER TUBE BOILERS

7,000,000 H. P. Land Type and 1,400,000 H. P. Marine Type in use
2,100,000 H. P. of which are installed in

**Electric Light & Traction Stations**



LAND TYPE BOILER FITTED WITH SUPERHEATER AND CHAIN GRATE STOKER

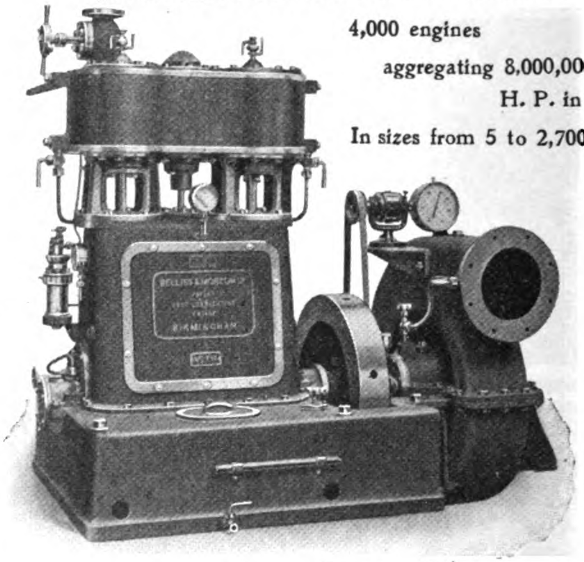
**Complete Steam Piping Installations and all Boiler House Accessories**

HEAD OFFICES:—Oriel House, Farringdon Street, London, E. C.
WORKS:—RENFREW, SCOTLAND

## BELLISS & MORCOM, LTD.

PATENT SELF-LUBRICATING
QUICK REVOLUTION STEAM ENGINES

4,000 engines
aggregating 8,000,000
H. P. in use
In sizes from 5 to 2,700 H. P.



DIRECT CONNECT CENTRIFUGAL PUMPING

**Condensing Plants, Paraffin Engines**

**Head Office:**

LEDSAM ST., BIRMINGHAM, ENGLAND

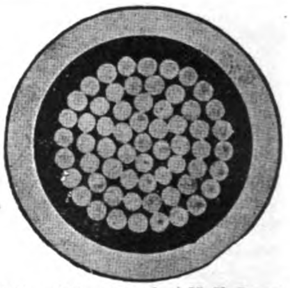
## W. T. Henley's Telegraph Works Co., Ltd.

HEAD OFFICES:
Blomfield St., London Wall, London

WORKS:
North Woolwich and Gravesend.

**Stocks carried at our**
**SHANGHAI DEPOT, 19 Szechuen Road.**

Prices on application for Rubber, Paper, Jute or Bitumen. Insulated, House Service, Aerial and Bare Copper Cables. Flexibles or Telephone and Telegraph Cables of all kinds.



"61—.101—.5 sq. in.: H. T. Paper and Lead Covered."

## A Few Eastern Works Which Have Installations From One Or All the Above Firms

*Green Island Cement Co., Hongkong.*
*Electric Traction Co., of Hongkong.*
*China Light & Power Co., Kowloon and Canton.*
*Manila Electric R. R. & Light Co.*
*Shanghai Municipality Electricity Works (Tramway & Light.)*
*Cie Francaise de Tramways et d'Eclairage Electriques de Shanghai.*
*Shanghai-Nanking Railway.*
*Admiralty Dockyard, Hongkong.*
*The Trading Co., Hankow.*
*The Hongkong Electric Light Co.*
*The Hongkong and Whampoa Dock Co.*
*China Inland Light Co., Shanghai.*
*Swatow Electric Light Co.*
*Hankow Light & Power Co.*
*Hankow (Native City) Waterworks & Light Co.*
*Tientsin Gas & Electric Light Co.*
*Peking Electric Light Co.*
*Peking Syndicate, Ltd.*
*Hanyang Iron & Steel Works.*
*Tientsin Enterprising Corporation.*
*Fushun Colliery, Manchuria.*

**Correspondence Solicited—Estimates Given**

Specifications drawn and estimates given for Boilers, complete plants including superheaters, pumps, complete steam pipe ranges, chimneys, etc., Engines and condensing plants; for Central Stations, Dockyards, Arsenals, Mills, Factories, Collieries, Mines, etc.

SHANGHAI
HONGKONG
CANTON
HANKOW
CHUNGKING
TIENTSIN
TSINGTAU

# ARNHOLD, KARBERG & CO.

TSINANFU
NEWCHWANG
NEW YORK
BATTERY PL.
LONDON
BERLIN

## General Agents for

**ELECTRICAL GENERATORS, SUPPLIES, ETC.**
Allgemeine Electricitaets Gesellschaft (A. E. G.) Berlin.

**ELECTRIC TRAIN LIGHTING**
Electric Train Lighting Co., Berlin.

**RAILWAY MATERIAL**
Arthur Koppel Ltd., Berlin.

**STEAM LOCOMOTIVES**
The Baldwin Locomotive Works, Philadelphia.

**STEAM PUMPS**
The A. S. Cameron Steam Pump Co., New York.

**TELEPHONE APPARATUS**
The Western Electric Co., New York and Chicago.

**FLOUR MILLING MACHINERY**
The Nordyke & Marmon Co, Indianapolis.

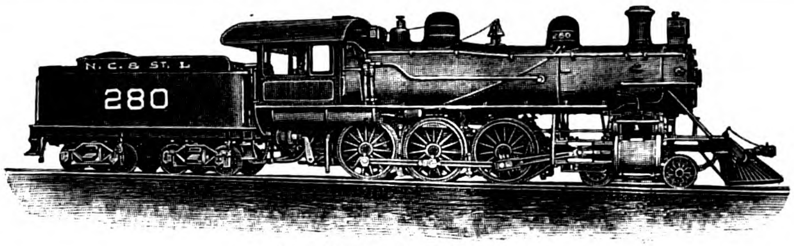
**BLASTING POWDER, FUSES, ETC.**
Rendrock Powder Co., New York.

**REINFORCED CONCRETE CONSTRUCTION**
Trussed Concrete Steel Co. (Kahn System), Detroit.

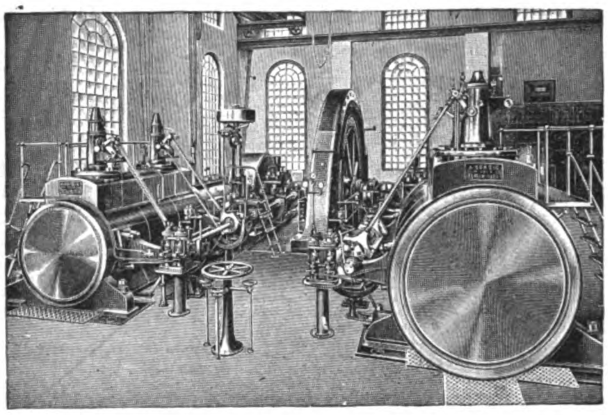
**HEAVY MACHINE TOOLS**
Niles-Bement-Pond Co., New York.

**BELTING**
Gandy Belting Co., Baltimore.

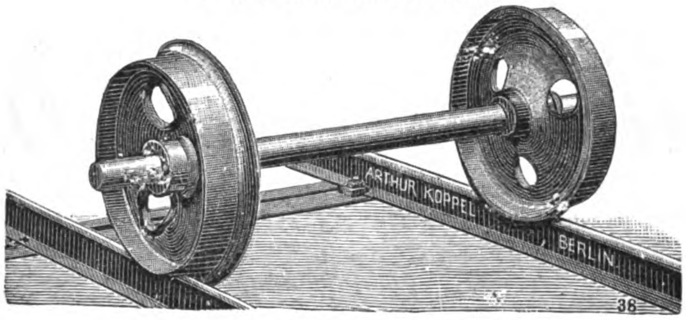
**DRILLING MACHINERY**
Davis Calyx Drill Co., New York.
Star Drilling Machine Co., Akron, Ohio.



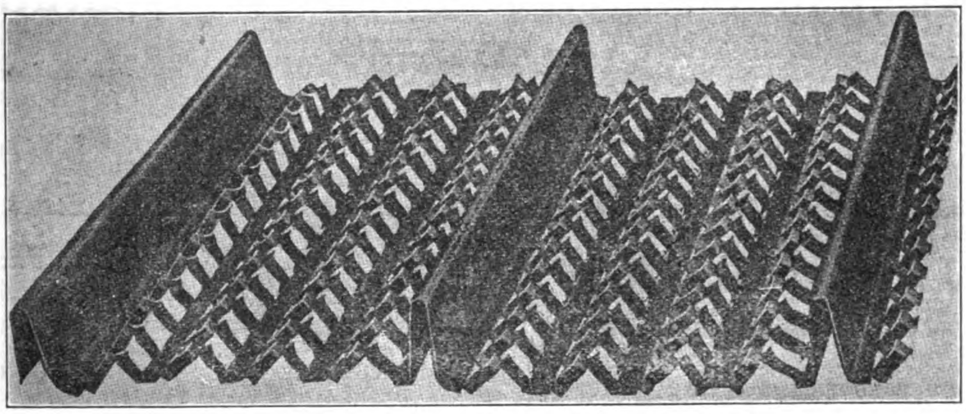

BALDWIN LOCOMOTIVE



A. E. G. ELECTRICAL PLANT




RAILWAY WHEELS AND AXLE



HY-RIB USED EXTENSIVELY FOR WALLS, SIDINGS, ROOFS, PARTITIONS, SUSPENDED CEILINGS AND FURRING

## General Agents for

**CONCRETE MACHINERY**
Ideal Concrete Machinery Co., South Bend.

**ROOFING**
Paraffine Paint Co., San Francisco.

**MOTORS, TORPEDO AND MINING MATERIAL**
Berliner Maschinenbau A. G. vorm Schwarzkoff, Berlin.

**ENGINES, PUMPS, BOILERS, ICE MACHINES, ETC.**
A. Borsig, Tegal, Berlin.

**AMMUNITION, ETC.**
Deutsche Waffen and Munitions Fabriken, Berlin, Karlsruhe.

**ARMY RIFLES, ARMS, ETC.**
Waffenfabrik Mauser A. G., Obendorf, Neckar.

**GUNS AND AMMUNITION**
Skodawerke A. G., Pilsen.

**MACHINE TOOLS**
Ludw. Loewe, A. G., Berlin.

**WAR VESSELS**
Stettiner Maschinenbau A. G. "Vulcan."

**STEEL**
Jonas & Colver, Ltd., Sheffield.

**COTTON MILLING MACHINERY**
Asa Lees & Co., Ltd., Oldham.

**MOTOR BOATS**
Carl Meissner, Hamburg.

**DIESEL ENGINES**
Diesel Engine Co., Ltd. London.

## ENGINEERING AND ELECTRICAL DEPARTMENTS

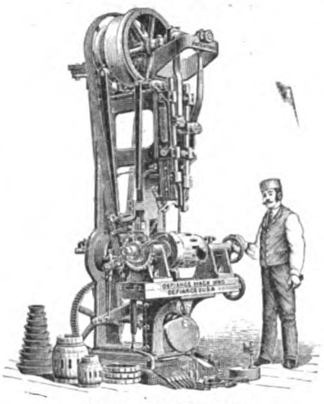
# "DEFIANCE" WOOD-WORKING MACHINERY

Invented and Built by

**THE DEFIANCE MACHINE WORKS**

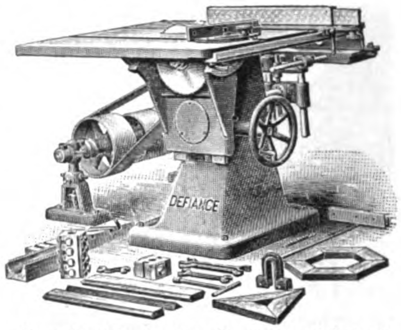
DEFIANCE, OHIO, U. S. A.

**Send for Catalogue**



No. 2 Hub Mortiser

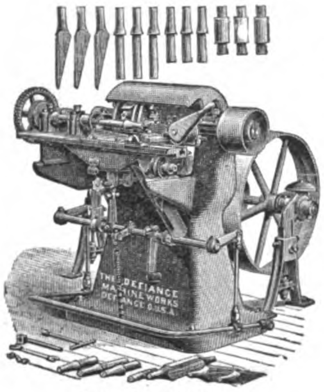
For manufacturing AUTOMOBILE WHEELS AND BODIES, Hubs, Spokes, Wheels, Wagons, Carriages, Rims, Shafts, Poles, Neckyokes, Single Trees, Hoops, Handles of all kinds, Bobbins, Spools, Insulator Pins, Table Legs, Balusters, Shoe Lasts, Oval Wood Dishes and for General Woodwork.



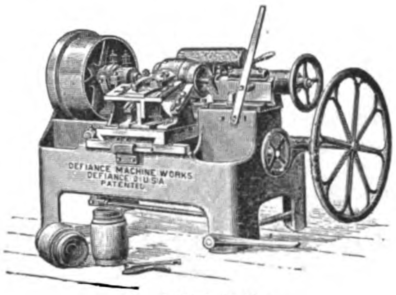
No. 8 Variety Sawing, Shaping and Cut off

**EASTERN AGENTS:**

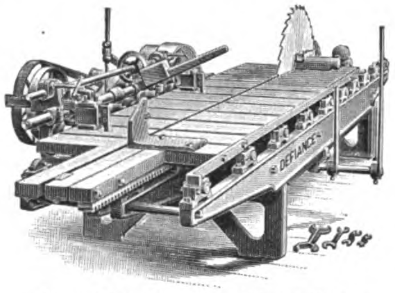
Schuchardt & Schutte, Shanghai | Mitsui & Co., Tokyo
Frank L. Strong, Manila, P. I. | London Office, 71 Queen St. E.C.



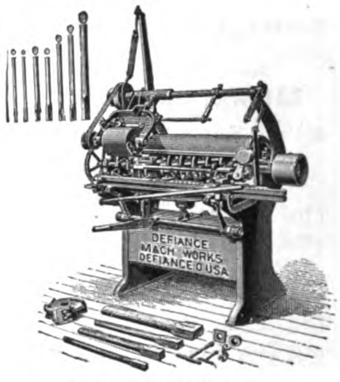
Insulator Pin Lathe



No. 1 Hub Lathe



No. 6 Short Log Saw Mill and Edger



Automatic Spoke Lathe

---

# *General Electric Company*

*PRINCIPAL OFFICE: SCHENECTADY, N. Y.*

## Largest Manufacturer of Electrical Apparatus in the World

The most extensive engineering and manufacturing resources in the world enable the General Electric Company to produce completely developed apparatus and accessories for the generation and transmission of electricity and its application to all lighting and power purposes -:- -:- -:- -:- -:- -:- -:- -:-

**Far Eastern Addresses:**

GENERAL ELECTRIC COMPANY (Special representative for the Far East) 23 Water Street, Yokohama, Japan

MITSUI & CO., Tokio, Japan.

BAGNALL & HILLES, Yokohama, Japan

FEARON, DANIEL & CO. }
ANDERSON, MEYER & CO. } No. 4 Yuen Ming Yuen Road, Shanghai, China.

FRANK L. STRONG, Manila, P. I.

# California-Manila-Lumber Commercial Co.

Cable Address: "HOOPTON"

Codes: Western Union, Universal Edition—Lybo
A.B.C. 4th Edition—Century

Telephone 290
P. O. Box 782

IMPORTERS OF
## OREGON PINE REDWOOD
and all kinds of Hardware

Representatives of
Leading American Manufacturers of Machinery, Building Material, Engineering Supplies, Etc.

Representatives of

**The Trussed Concrete Co.,** *Detroit, Mich.*
**Acetylene Apparatus M'fg. Co.,** *Chicago, Ill.*
**A. L. Canfield,** *New York City.*
**Contracting Plant M'fg. Co.,** *New York City.*
**Higgins Manufacturing Co.,** *Newport, N. J.*
**Lobee Machinery Co.,** *Buffalo, N. Y.*
**McCray Refrigerating Co.,** *Kendallville, Ind.*
**Morreau Gas Fixture M'fg. Co.,** *Cleveland, O.*
**Shoel Kopf, Hartford & Hanna Company,** *Buffalo, N. Y.*
**South Bend Chilled Plow,** *South Bend, Ind.*
**J. B. Wise & Co.,** *Watertown, N. Y.*

*Offices: 10-11-12 LACK & DAVIS Building, Calle Echague, Manila, P. I.*

CORRESPONDENCE SOLICITED



# Warner, Barnes & Co., Ltd.
**Manila, London, New York, Iloilo, Cebu, Albay, Samar, Leyte**

**General Merchants, Insurance and Shipping Agents**
**Importers and Exporters**

**Steamship Agencies:**
International Sleeping Car & Express Trains Company
The Great Trans-Siberian Route
China & Manila S. S. Co., Ltd.
Bucknall S. S. Lines, Ltd.
Nippon Yusen Kaisha
White Star Line
Bibby Line.

**Express Companies**
China Express Co.
Geo. W. Wheatley Co.'s Express
United States Express Co.
Neale and Wilkinson Express Co.

**General Managers**
The Pasig Steamer & Lighter Co., Ltd.

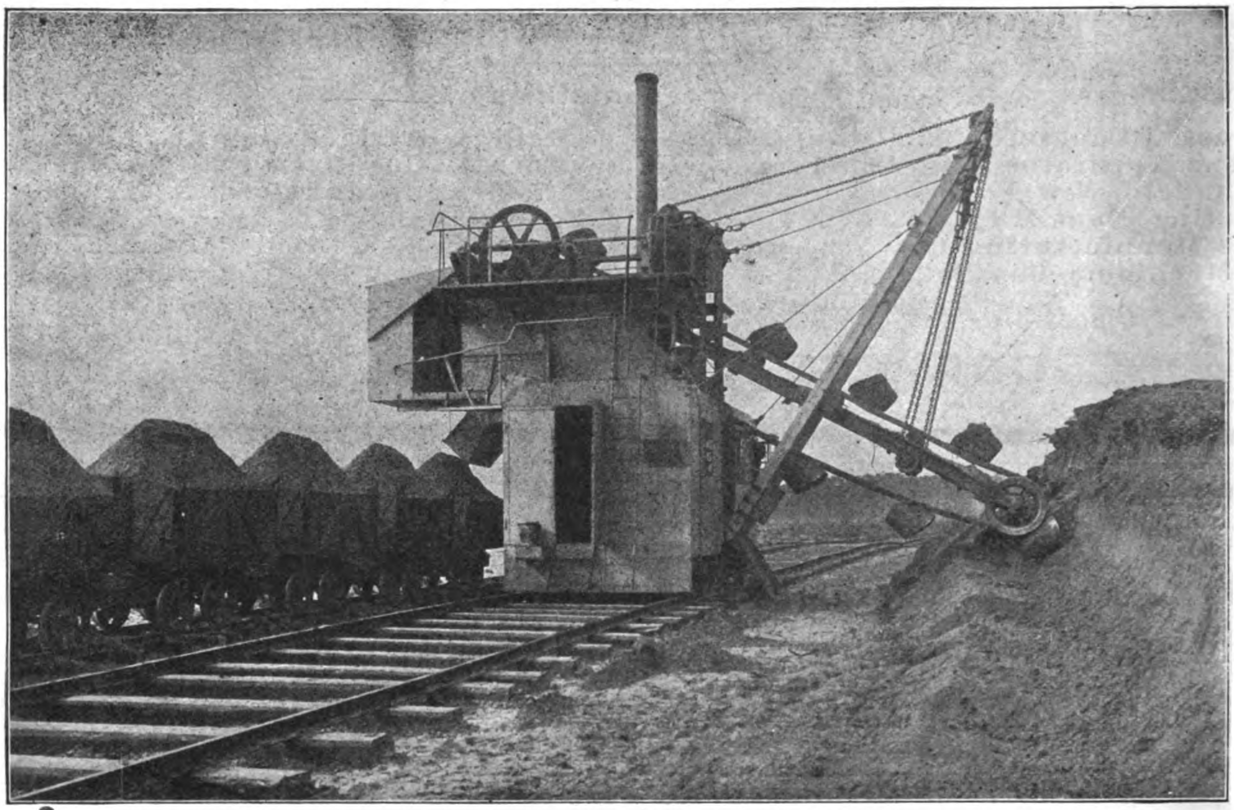
**Insurance Agencies**
Royal Exchange Assurance Corporation
Law Union & Crown Insurance Co.
State Fire Insurance Co., Ltd.
China Fire Insurance Co., Ltd.
Maritime Insurance Co., Ltd.
Western Assurance Co.
Yangtsze Insurance Association, Ltd.
Tokio Marine Insurance Co., Ltd.
Manufacturers Life Insurance Co.

Telegraphic Address:—WARNER
P. O. Box 294
Tel. Nos. 228—104—610

No. 7 Carenero
MANILA, P. I.

# MACHINERY OF ALL KINDS

## RAILWAY MATERIAL AND SUPPLIES



RAILWAY EXCAVATOR

*AGENTS FOR:*

Felten & Guilleaume-Lahmeyer Werke, Frankfort/ Main, Electrical Supplies : : : :

Gasmotoren Fabrik Deutz, Cologne-Deutz, Original "OTTO" Gas and Oil Engines and Suction Gas Plants : :

Haniel & Lueg, Duesseldorf, Hydraulic and Mining Machinery, Heavy Steel Castings :

## SIEMSSEN & CO.

ENGINEERS & CONTRACTORS

SHANGHAI

HONGKONG, CANTON, HANKOW
TIENTSIN, TSINGTAU

*SPECIFICATIONS AND ESTIMATES GIVEN FOR INDUSTRIAL PLANTS OF EVERY DESCRIPTION*

All Kinds of Machine Tools, Pumps, Locomobiles, Oil Engines, Dynamos and Motors carried in stock at Shanghai

*AGENTS FOR:*

Orenstein & Koppel, Ltd., Berlin, Railway Material : : : :

R. Wolf, Magdeburg-Buckau, Patent Superheated Steam Locomobiles : : : : :

Weise & Monski, Halle/ Saale, Pumping Machinery : : :

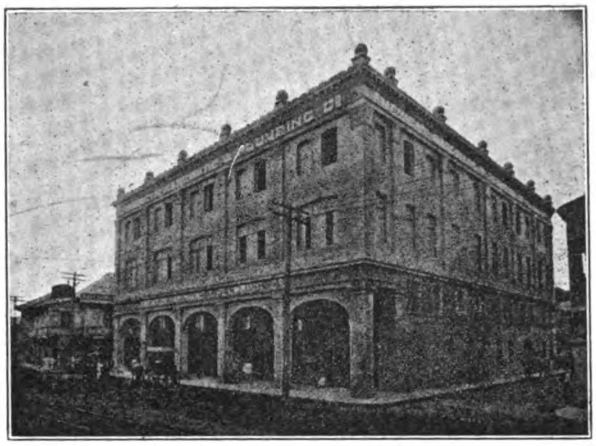
Cable Address: "SANIDAD"
Codes: Western Union, A. B. C. 5th ed.

P. O. Box 137
Telephone 3 and 4
Bodegas 1129

# AMERICAN HARDWARE & PLUMBING CO.

30 Echague, Manila -:- New York Office, Park Row Bldg.

*Heavy and Shelf Hardware.*
*Pipe and Fittings for Steam and Water Installations.*
*Steel Bars for Reinforcing, Forging and Tools.*
*Roofing Sheets, Plain Sheets, Sheet Piling, Nails.*
*A broad line of General Contractors' Supplies.*


Store, 30 Echague, Manila

*Paints and Oils*
*Lubricating Oils*
*Hose and Belting*
*Pumps and Fencing*
*Plate and Window Glass*
*Metal Ceiling, Scales*
*Stoves, Crockery*
*Glassware, General*
*House Furnishings, Safes,*
*Sporting Goods and*
*Typewriters*

We carry the largest stock in the Far East of Sanitary Fixtures, and pipe and fittings for sanitary installations. We are prepared to make sanitary installations on the most favorable basis, and can furnish plans and estimates promptly. Correspondence solicited.

# CADWALLADER GIBSON LUMBER CO.

WHOLESALE AND RETAIL DEALERS AND EXPORTERS IN

## PHILIPPINE MAHOGANY

Hardwood Timber for Bridge Construction and Railway Sleepers a Specialty : : : :

We Own Two Big

## Sawmills and Furniture Factory

## Gibson Furniture

BLINDS, SASH, DOORS, ETC., MANUFACTURED BY

Up-to-date Machinery

OFFICE FIXTURES, SHOW WINDOWS, STORE FURNISHINGS, DESKS, ETC.

ESTIMATES FURNISHED

Yard Office . . . . . . { 302 CALLE SAN MIGUEL, MANILA
SIMAY, BATAAN, P. I

Cable Address:
CAHOY

Codes:
Western Union, Universal Edition; A. B. C.

# Export and Import Lumber Co.

SUCCESSORS TO

## The B. W. Cadwallader Company

P. O. Box 433 MANILA, P. I. Telephone 363

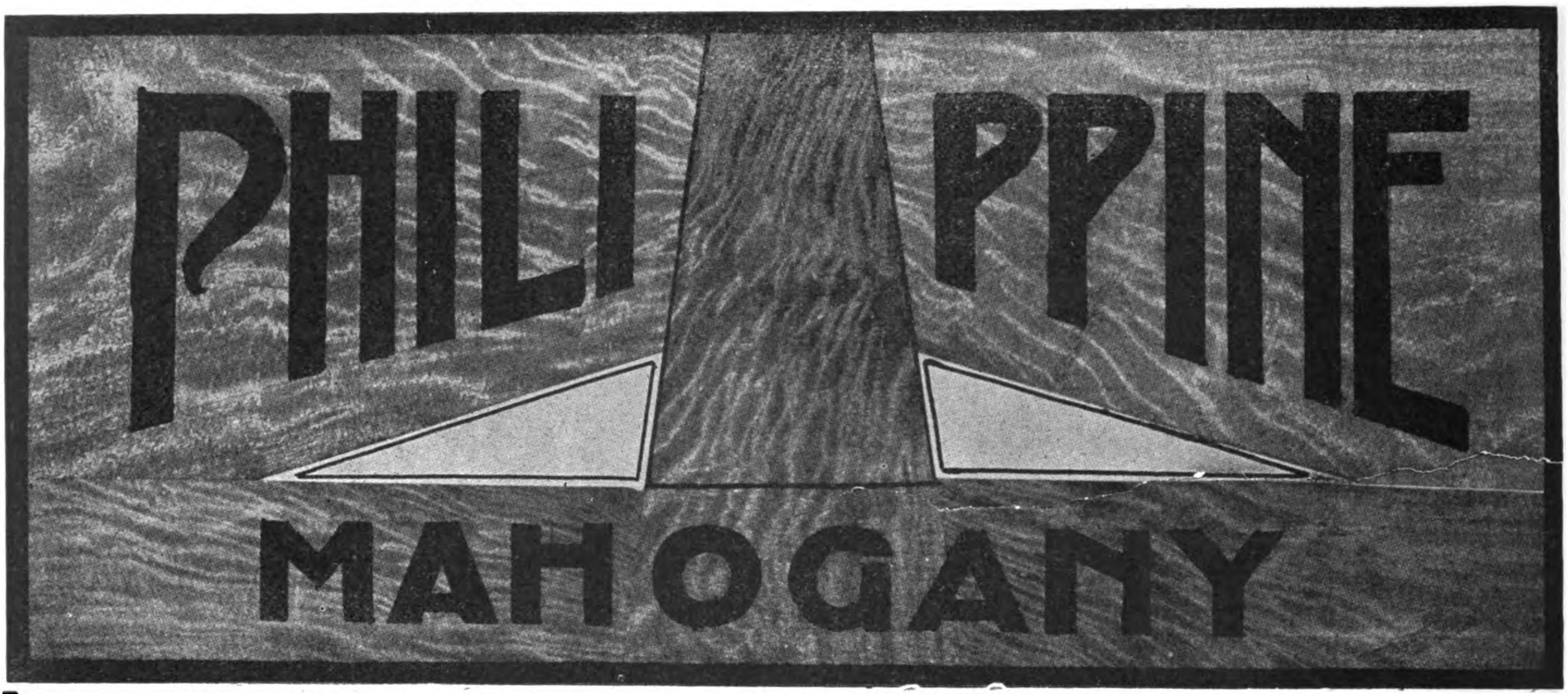
Importers of Oregon Pine Lumber

Exporters of Philippine Hardwood Lumber, Sleepers and Timber for Railroad Construction, etc. : : : : : :

W. W. PAYNE
President and General Manager

Mills and Office

51 CALLE TANDUAY MANILA, P. I.




**FOR FURNITURE, CABINET WORK, INTERIOR TRIM, CAR BUILDING, ETC.**

**Location of Forests and Mill at Sagay, Negros Occidental, Island of Negros, P. I.**

Capacity of Mill: 100.000 Ft. B. M. per Day

# INSULAR LUMBER CO.

Lack & Davis Bldg.
Calle Echague, Manila, P. I.

No. 20 Broad St.,
New York City

---

Cable Address: "BANGA"—A. I. CODE

Main Office: ZAMBOANGA, MINDANAO, P. I.

## The Port Banga Lumber Co., Inc.

**Mills: Port Banga, Sibugay Bay, Mindanao, P. I.**

We are cutting at present:

Yacal
Molave
Guijo
Lumbayao
Pagatpat

WHOLESALE ONLY!

Posts, Pilings, R. R. Ties, Bridge Timber, Telegraph Poles.

Telegraph Cross Arms, and Lumber cut to dimensions.

Temporary Piles of 4 Group timber 10 to 70 ft. long.

Permanent Piles of Liusin, Molave, 10 to 70 feet long.

Total amount cut and manifested 12 months ending October 1st, 1908, 3,034,651 Board Feet.

The Harbor at Port Banga, where largest Ocean-going vessels can enter, is safe at all seasons of the year and anchorage is good. Ships always promptly loaded and we give absolute guarantee that material will be delivered alongside as rapidly as ship can take it. Ship Charter can be based on these facts. One to two ships per month calling at Port Banga makes it possible to make prompt deliveries.

---

Telephone No. 551
P. O. Box No. 284

Cable address: "GREILSAMMER"

## Greilsammer Bros.

**General Importers**

**Wholesale and Retail Jewelers**

Diamonds,
Jewelry,
Watches.
Sterling and
Plated Ware

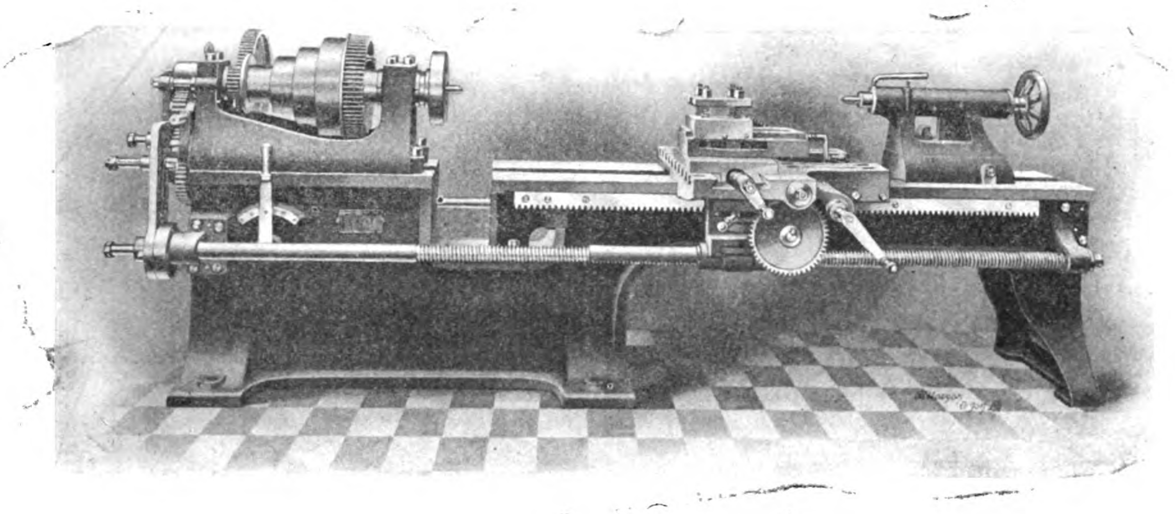
34-36 Escolta Manila, P. I.

# JARDINE, MATHESON & CO., LTD.

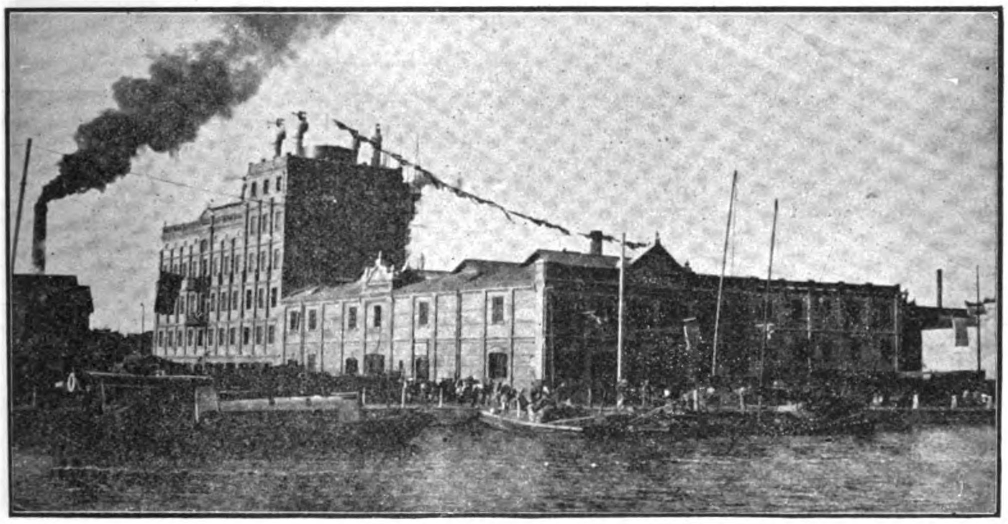
## HONGKONG AND CHINA

**MACHINERY DEPARTMENT**
Peking Road, Shanghai

**ENGINES, BOILERS, PUMPS AND ELECTRICAL MACHINERY FOR ALL PURPOSES, ENGINEERING AND ELECTRICAL SUPPLIES IN STOCK**



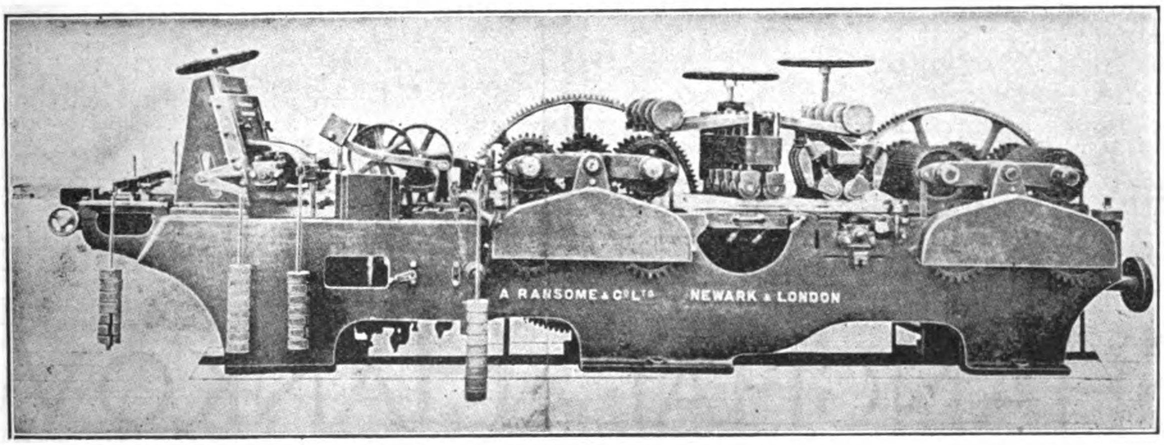
LATHES AND TOOLS OF ALL KINDS



YUEN CHUNG FLOUR MILL, SHANGHAI—MACHINERY FURNISHED AND INSTALLED—JARDINE MATHESON & CO.

**SOLE AGENTS FOR:**

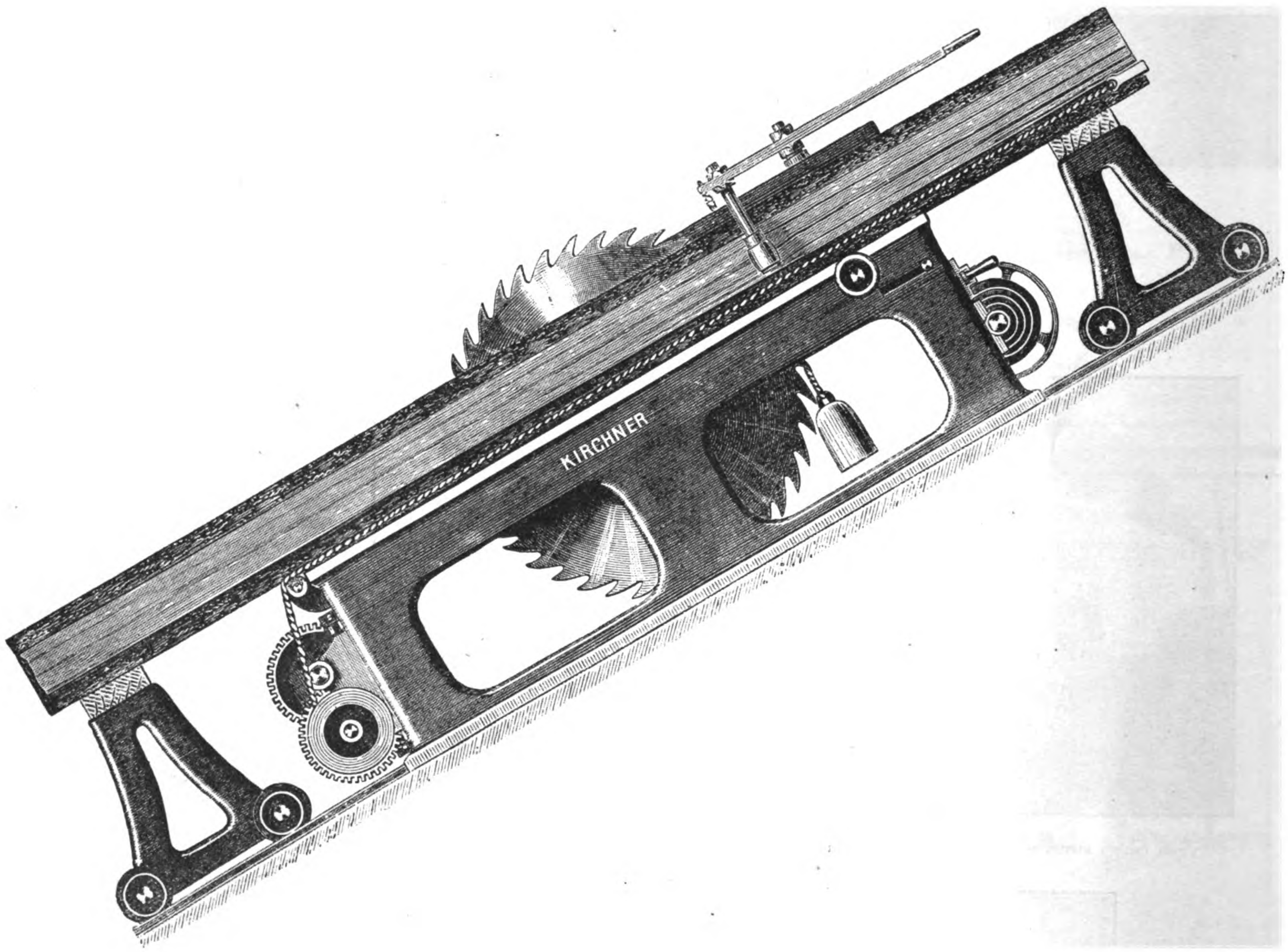
Messrs. Chas. Price & Co.
Messrs. J. B. White & Bros.
Messrs. Gwynnes, Limited.
Messrs. Marshall Sons & Co., Ltd.
Messrs. Merryweather & Sons, Ltd.
Messrs. A. Ransome & Co., Limited.
Messrs. Meredith Jones & Sons, Ltd.
Messrs. O. & W. Ormerod.
The Westinghouse Brake Co., Ltd.
Messrs. Bruce Peebles & Co., Ltd.
The British Northropp Loom Co.
Messrs. Joshua Hendy Iron Works.
Messrs. Henry Livesey, Limited.
The Barber Asphalt Roofing Co.
Messrs. Thos. & Wm. Smith, Limited
The Kitson Lights Foreign Supply Co.
North British Locomotive Co., Ltd.
Etc.




HIGH-SPEED FLOORING AND MATCH BOARDING MACHINE

# SHANGHAI MACHINE COMPANY

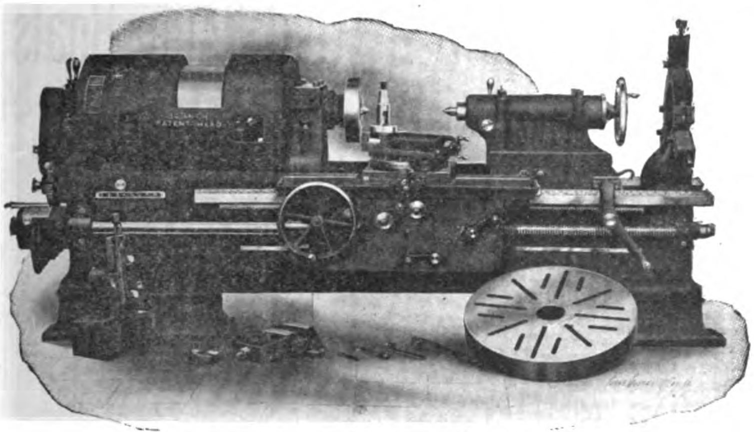
Cable Address: "FERRO"




Large Stock of Kirchner's Wood Working Machines

SHANGHAI, HANKOW

# Well Balanced Design



Electrotype No. 802 A-2

Why put great power into a lathe headstock if you cannot fully utilize it on account of light construction elsewhere? Yet during the past few years attention in lathe design has been directed principally toward the improvement of headstocks.

When we adopted the "Patent Head," with its immense power possibilities, we found it necessary to proportionately strengthen the other parts of the lathe. We made the bed wider and deeper; substituted drop forged steel for cast iron in the feed gears; gave the carriage more bearing upon the bed; strengthened the apron; shortened and widened the bridge; doubled the weight of the tailstock, and provided additional means for securing it in position.

The "Patent Head" Lathe as a whole has kept pace with the improvement of the Head.

**WE MANUFACTURE ENGINE LATHES WITH EITHER "PATENT HEAD" OR CONE HEAD IN SIZES FROM 7″ TO 24″ CENTERS. WRITE FOR CATALOG**

## The Lodge & Shipley Machine Tool Company

CINCINNATI, OHIO, U. S. A.

FOREIGN AGENTS:—*Chas. Churchill & Co., Ltd., London, Birmingham, Manchester, Glasgow, Newcastle-on-Tyne; Werner Hult, Helsingfors; Ernst Krause & Co., Vienna; V. Lowener, Copenhagen, Christiania, Stockholm; Alfred H. Schutte, Barcelona, Bilbao, Brussels, Cologne, Milan, Paris; Schuchardt & Schutte, Berlin, Budapest, St. Petersburg; R. S. Stokvis & Zonen, Ltd., Amsterdam, Rotterdam, Gronigen, Brussels; Andrews & George, Yokohama; Bevan & Edwards, Propty. Ltd., Melbourne; Adolfo B. Horn, Havana.*

**Agents wanted for territory in which we are not already represented.**

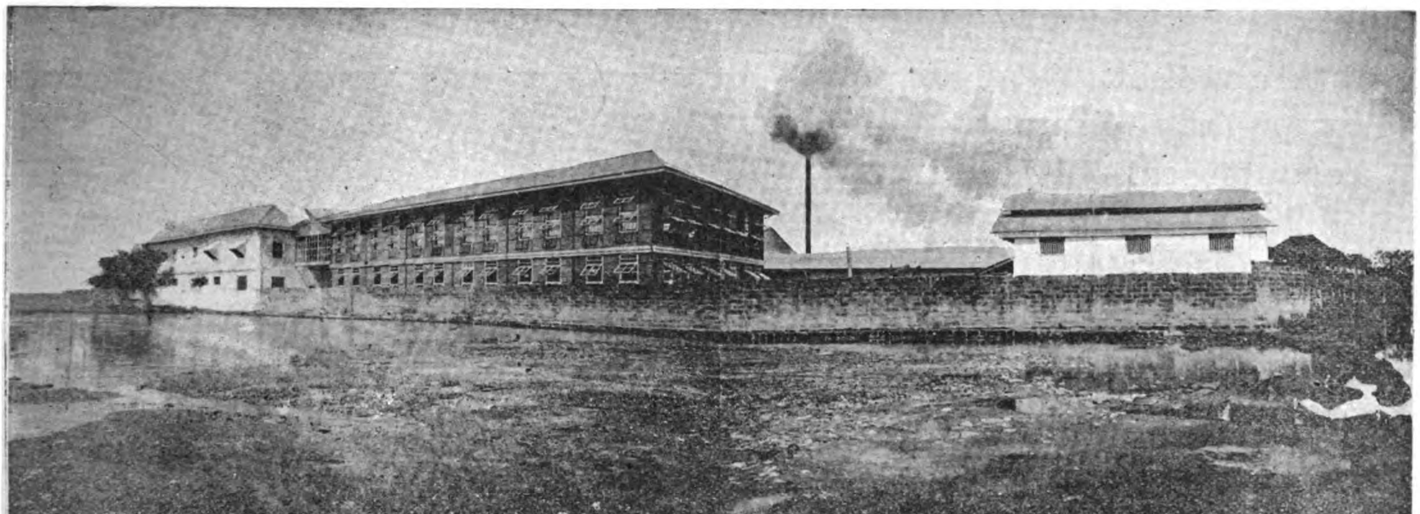


Cable Address: ALHAMBRA

# ALHAMBRA

P. O Box 301
Telephone 527

Cigar and Cigarette Factory, Manila, P. I.



Most perfect sanitary installations and absolute cleanliness throughout the Factory in every department.

**View of the Factory from the Riverside.**

Well ventilated, airy working rooms. Everything under European expert supervision.

A few leaders:

Divinos, Regalia, Alha., Excelentes, Perfectos, Especiales, High Life, Incomparables, Republica. Imperiales, Etc., Etc.

Why the Best:

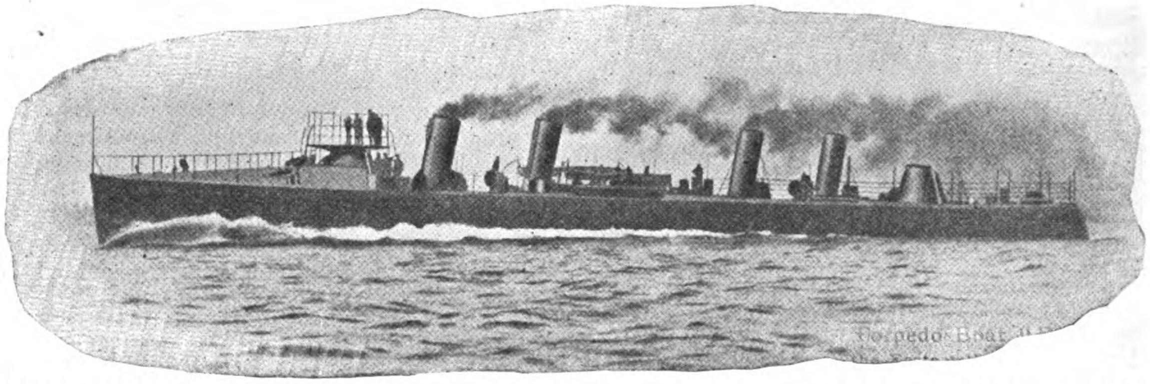
We use nothing but finest selected Isabela leaf.
We maintain the quality of each grade by strict supervision.
We combine quality, grade and price so as to give the best return for money.

Catalogs, Price Lists and Samples Furnished on application

KUENZLE & STREIFF, PROPS.

# Torpedo Boats, Destroyers, Yachts, Launches, Tow-Boats and "Auto Boats"

BUILDERS OF STEEL OR WOODEN CRAFT FOR ANY CLASS OF SERVICE



TORPEDO BOAT "BAILEY," THE FASTEST VESSEL IN THE UNITED STATES NAVY—205 FEET OVER ALL; 19 FOOT BEAM; 6 FOOT DRAUGHT; 235 TONS DISPLACEMENT; H. P. 5600; SPEED 30 KNOTS—BUILT BY THE GAS ENGINE & POWER CO. AND CHARLES L. SEABURY & CO., (CONSOLIDATED).

OUR "SPEEDWAY" LAUNCHES HOLD THE RECORD FOR SPEED AND ENDURANCE—RECORD BREAKING LAUNCHES:—ARGO, ARTFUL, THERE-SHE-GOES, ZIPALONG, JAPANSKY, WINNINISH, COLONIA, QUEEN, SKEETER

**HIGH SPEED TRIPLE EXPANSION ENGINES ARE OUR SPECIALTY**

WE HAVE BUILT THE U. S. TORPEDO BOATS "BAILEY," "WILKES" AND "STEWART," 31 KNOTS, ALSO SEVERAL HUNDRED YACHTS, WITH RECORDS FROM 10 TO 22 KNOTS.

**TWENTY YEARS' EXPERIENCE IN THE DESIGNING, CONSTRUCTION AND EQUIPMENT OF VESSELS**

**GAS ENGINE & POWER CO. and CHARLES L. SEABURY & CO., Consolidated**

**MORRIS HEIGHTS, New York City—Member National Association of Engine and Boat Manufacturers**

## FRANK L. STRONG, General Agent, MANILA, P. I.

CATALOG AND ESTIMATE ON APPLICATION



# Shanghai Gas Company, Ltd.

Offices: THIBET ROAD — Show Room: NANKING ROAD

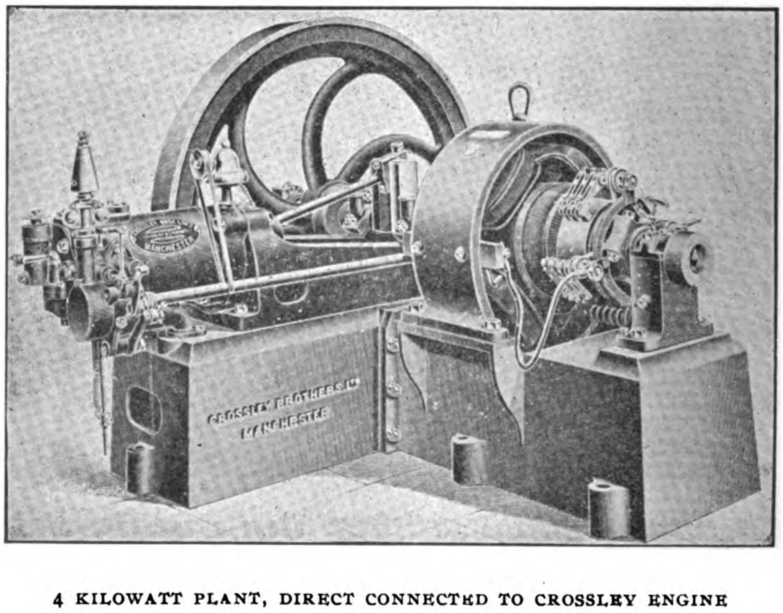
**To obtain Light, Heat or Power in the most economical way**

## USE GAS

The Shanghai Gas Company let on loan (free) Gas Cookers, Gas Fires and Radiators.
Also High Power Lamps and Geysers on hire.
Large assortment of Welsbach Gas Fittings always kept in Stock.

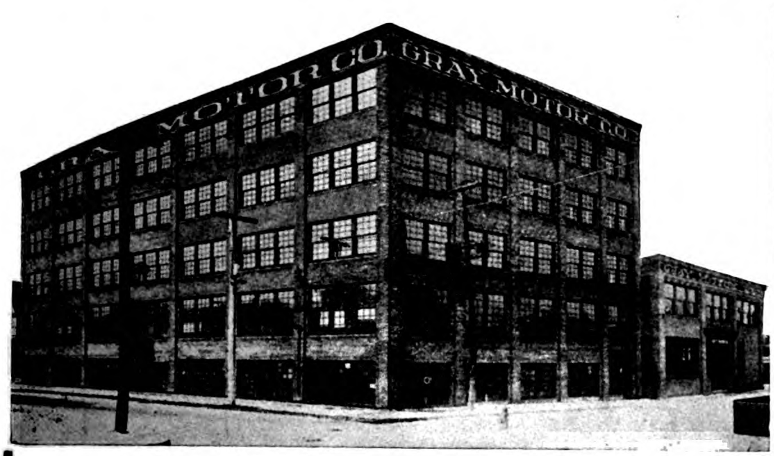
**APPLY FOR PARTICULARS**

威麟



4 KILOWATT PLANT, DIRECT CONNECTED TO CROSSLEY ENGINE

## Agents for CROSSLEY BROS.

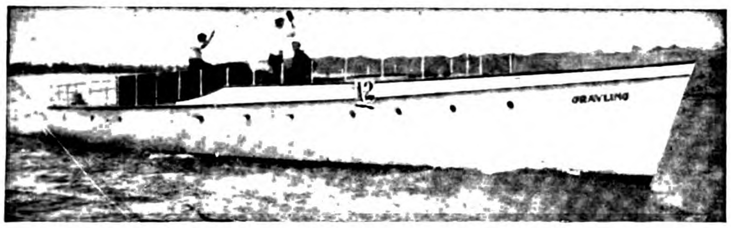



**GRAY MOTORS are made in the largest and most up-to-date plant in the world devoted exclusively to the manufacture of 2-cycle marine motors.**

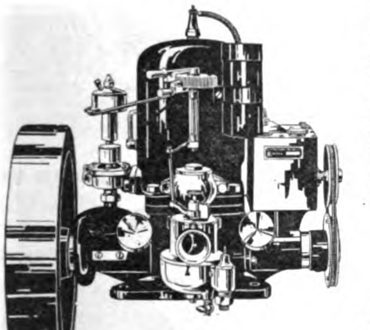
We build nothing in our plant but GRAY motors. Our plant was built and equipped to build GRAY Motors and *nothing else*.

We *concentrate* our entire attention, ability and capital to build the *best* motor it is possible to build, and sell it at a price that gives us the *greatest volume of 2-cycle marine business in the world*.

When you get a GRAY Motor, you get the benefit of all our concentration at a price made possible only by the enormous volume of our business.




*The Fastest Cruising Motor Boat in the World* of its length and beam, the yacht Grayling, is equipped with three GRAY MOTORS.



*Features of Gray Motors:*
Fuel Economy.
Long Life.
Every part absolutely interchangeable.
Mechanical pump lubricator.
Sparl coil on cylinder.
Starts without cranking.

Long, high grade, interchangeable bearings, cylinder, piston, piston rings are ground to a mirror finish giving perfect compression. Ball thrust bearings.

Oil ring on cranks, elevated gear driven commutator, bronze gear driven pump, Krice or Schebler carburetor.

*No other motor*, high price or low price, includes all these features.

1, 2 and 3 cylinders 3 to 36 horse power

*Heavy Duty Motors for Fishing Boats* and commercial purposes. Gray Motors are made in styles and sizes suitable for *any* boat under *any* conditions.

All prices of Gray Motors include complete marine and electrical outfits, with batteries all wired up, duplicates of parts subject to the most wear and complete outfit of high grade tools. The entire outfit is carefully packed in a water proof cover and excelsior and securely fastened in an iron bound box.

The Gray Motor Company maintains a Department of Foreign Service which gives every inquiry prompt, careful and courteous attention. Correspondence is conducted in any language. Write today for catalog and full information.

# GRAY MOTOR CO.

**88 Leib St., Detroit, Mich., U. S. A.**

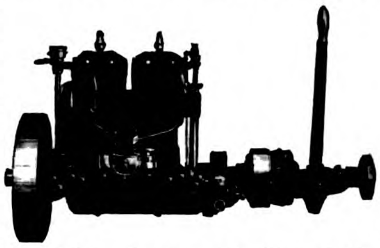
# FERRO

**The World's Standard Boat Motor**

In your choice of a motor boat, the deciding factor should be the engine. On it depends your ultimate pleasure and satisfaction in boating.

By choosing the Ferro Motor, you take no chance. You know that you are getting a marine engine which, in actual service, has proven itself the world's standard.

The Ferro design embodies the most advanced ideas in engine construction. The materials and workmanship that enter into every process of Ferro manufacture are up to the highest standard of quality.



Ferro motors are built to meet conditions in the Far East. They are today giving satisfaction in all parts of the world.

Write us for full information on boats, motors and equipment. We can help you select your exact requirements. Ferro literature sent free on request. A complete line can be secured from the nearest office of this paper.

**We Want Agents**

We still have some favorable territory for which we have no selling agents. If you are in a position to take up the sale of Ferro Motors, write us in full.

The Fastest Boat in Auckland Harbor, New Zealand, Equipped with 25-HP Ferro Engine

**THE FERRO MACHINE & FOUNDRY COMPANY**

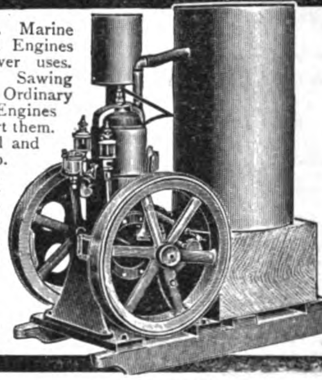
**Largest Marine Engine Builders in the World.**

**Main Offices,**
**820 Superior Ave.**
**Cleveland, O., U. S. A**

**New York Office,**
**44 Cortlandt St.,**
**2nd Floor**

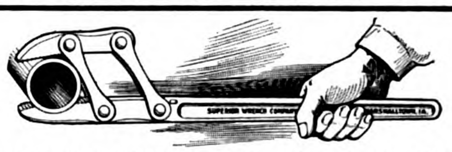
# DETROIT OIL ENGINES Fully Warranted

Marine Oil Engines for boats. Marine Reverse Gears. Stationary Oil Engines for farms, shops, and all power uses. Pumps and pumping outfits. Sawing outfits. Electro-generating sets. Ordinary lamp oil used for fuel. Detroit Engines require no heater or lamp to start them. Attachments for petrol, alcohol and Gas. Sizes from 2 hp. to 100 hp. One to eight cylinders. Prices very attractive. Write for agency terms. Valuable territory offered to reliable firms or individuals. Bank references given. Handsomely illustrated catalog sent on request.



**DETROIT ENGINE WORKS,**
**Melrum Avenue, Detroit,**
**Michigan, U.S.A.**

# IMPROVED AUTOMATIC WRENCH



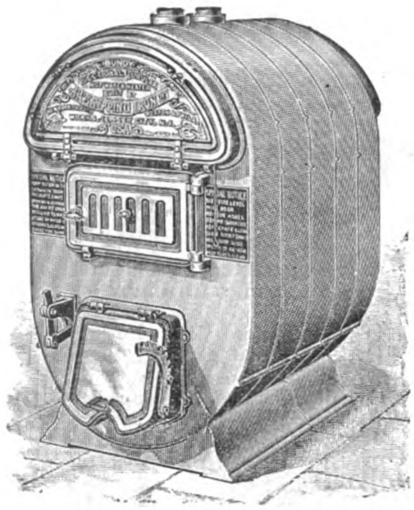
**Self-adjusting, works automatically on pipes, rods and nuts. Strongest, simplest and handiest wrench ever made. Grips instantly, the harder the pull the tighter the grip. Especially suitable for Machine shops, Garages and Dock Yards. Made in the following sizes:**

| | | | | | |
|---|---|---|---|---|---|
| 6 in. | opens to | 1 in. | Price | 2s. |
| in. | " | 1⅛ in. | " | 3s. |
| 12 in. | " | 1½ in. | " | 4s. |
| 16 in. | " | 2 in. | " | 5s. |
| 20 in. | " | 2½ in. | " | 6s. |

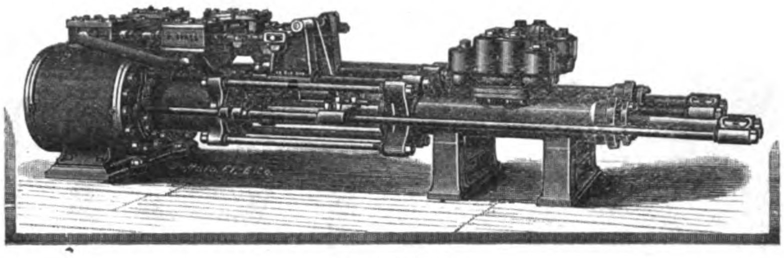
**Sample wrenches sent prepaid on receipt of Money order.**

**IMPORTERS, DEALERS and AGENTS. The "Superior Wrench" is in use throughout the United States and in many foreign countries. Write for our special offer and printed matter.**

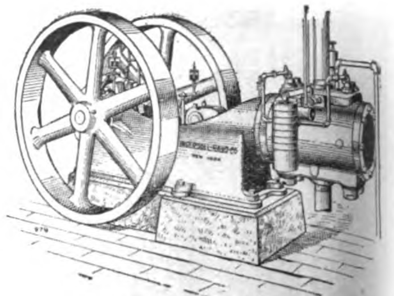
**SUPERIOR WRENCH CO., Marshalltown, Iowa, U. S. A.**



BUNDY HEATER



MINING PUMP



AIR COMPRESSOR


# *Machinery and Engineering Supplies*

## Railway Materials, Electric Light and Power Plants

**GENERAL ELECTRIC CO., N. Y.**
Electric Machinery.

**BRITISH THOMSON-HOUSTON CO.,**
Electric Railway & Power Plants.

**GOULD'S STORAGE BATTERY CO.,**
Electric Storage Batteries.

**THE McCONWAY & TORLEY CO.,**
Janney Railway Couplers.

**DEMPSTER, MOORE & CO.,**
Machine Tools.

**H. W. JOHN'S-MANVILLE CO.,**
Asbestos Materials.

**THE DE LA VERGNE MACHINE CO.,**
Refrigerating Plants.

**WHEELER CONDENSER & MACHINERY CO.,**
Condensers, etc.

**THE AVERY MANUFACTURING CO.,**
Traction Engines, etc.

**KEUFFEL & ESSER CO.,**
Engineers & Surveyor's Supplies.

**KELLOG SWITCHBOARD & SUPPLY CO.,**
Telephone Apparatus, etc.

**GREAT NORTHERN ELECTRIC CO.,**
Telegraph Instruments, etc.

ESTIMATES AND QUOTATIONS ON APPLICATION TO

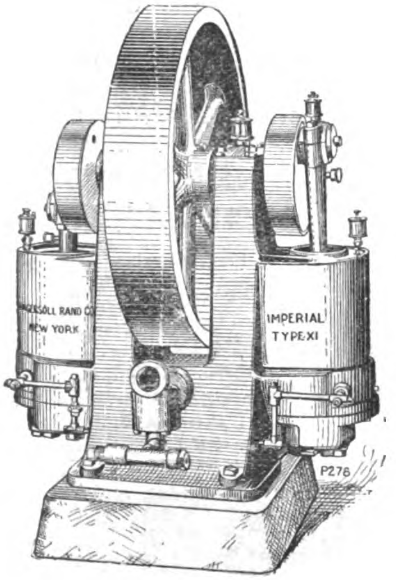
# FEARON, DANIEL & CO.
# ANDERSON, MEYER & CO.

**SOLE REPRESENTATIVES -:- ENGINEERING DEPARTMENT**

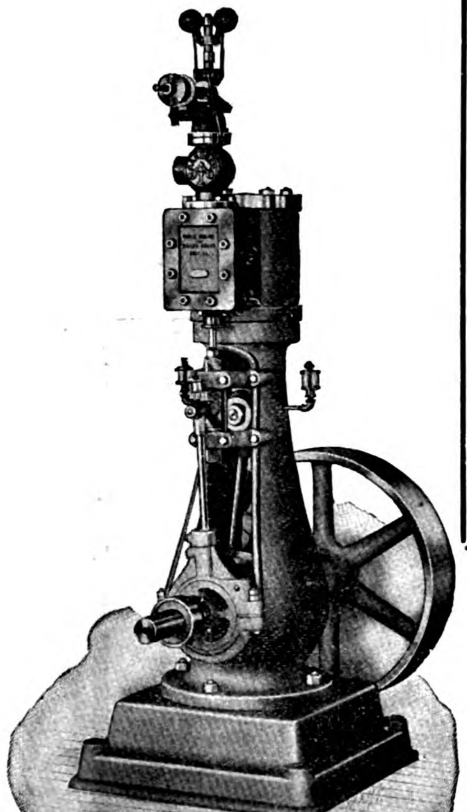
**SHANGHAI, 4-5 YUEN-MING-YUEN ROAD**

COMPRESSED AIR DRILL

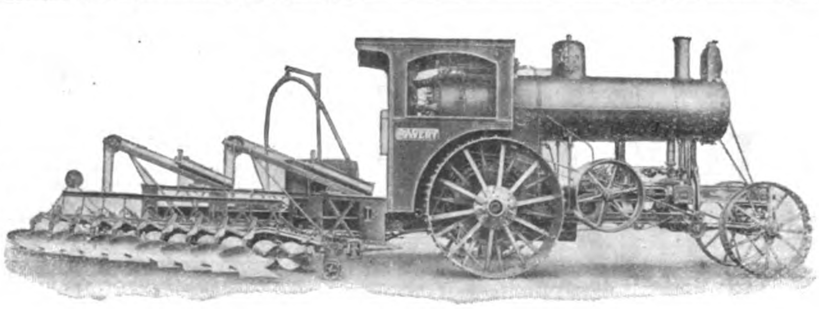
COMPRESSED AIR DRILL



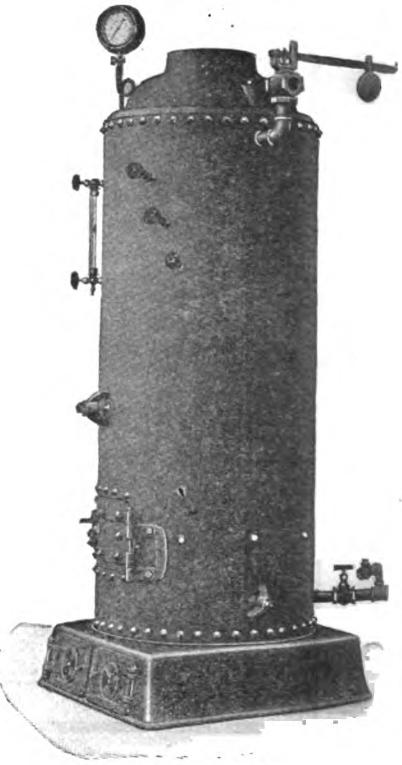

AIR COMPRESSOR



VERTICAL ENGINE



STEAM PLOW



VERTICAL BOILER

# VELUVINE

BULLDOG-PAINTS AND VARNISHES

Bulldog-brand.

F.A.v.D.LOO & Co
Shanghai

## IS THE PAINT OF THE FUTURE

## For Out and Indoor Work of Every Kind

**RAILROADS**
**TRAMWAYS**
**BARRACKS**
**RESIDENCES**
**SCHOOLS**
**YACHTS**
**STEAMSHIP COMPANIES**
**HOSPITALS**
**HOTELS**
**BUILDINGS**
**FACTORIES**

A NEW and perfected Veluvine paint superseding Varnish, with remarkable spreading, elastic and weather resisting properties. **One coat equals two coats of common paint and one of varnish.** Sanitary. Washable. Will not crack. Will not peel. Will not blister. Will not fade. Twelve months' guarantee given by the manufacturer. Saves Time, saves Labour, saves Varnish, saves Money.

**ONE GALLON PROPERLY APPLIED WILL COVER ABOUT 90 SQUARE YARDS**

Veluvine paint spreads like best wearing body Varnish, and **dries slowly** in the same way, but is far more elastic, and therefore does not crack, as even the best Varnishes will. **Veluvine paint is not an enamel,** and should not be compared with enamels for price. It is much **more economical, more durable** and covers **more surface.** Veluvine paint is the only satisfactory paint for Galvanised Iron and Galvanised Steel.

Any colour not included can be matched. Special quotation on application with sample of exact tint required.

## Prices Quoted on Application

General Agents for CHINA, JAPAN, SIAM

# F. A. VANDER LOO & CO.

2 Jinkee Road — Shanghai, China — Telephone 2530

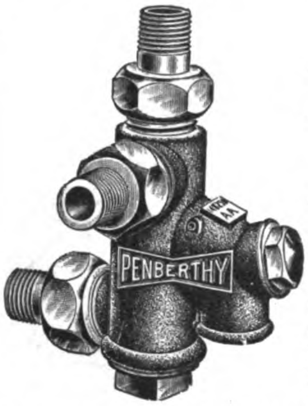
*Agents for the Philippines: Messrs. SPRÜNGLI & CO.*

## A PERFECT BOILER FEEDER

THE

# PENBERTHY

## Automatic Injector




This Injector takes the place of steam pumps (costing less) and taking up less room. It operates between pressures of 25 and 170 pounds. Lifts vertically 22 feet and handles hot water 125 deg. Fahr.

SALES 550,000 in the United States and Foreign Countries. Send for Catalog

## EJECTOR

Can be used wherever water or other liquids are to be raised or lifted and transferred to different levels.

**LIFTS 25 FEET**
**ELEVATES 100 FEET**

Agents wanted in every Country

## PENBERTHY INJECTOR COMPANY

LARGEST INJECTOR MANUFACTURERS IN THE WORLD

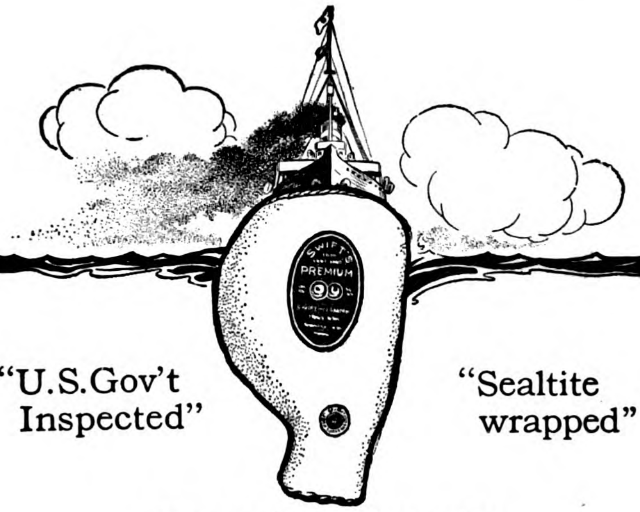
DETROIT, MICHIGAN - - - - - - U. S. A.

356 Holden Ave.

AGENTS:

W. H. WILCOX & CO., London, E. C.

JOHN KING & CO., Calcutta.
MALCOMESS & CO., East London, S. A.



"U.S.Gov't Inspected"

"Sealtite wrapped"

Fresh from America

# Swift's Premium Hams and Bacon

No smoked meats equal Swift's Premium brands. Finest in quality because carefully selected from young corn-fed porkers, mild cured, smoked over slow burning hickory fires and then "Sealtite" wrapped so that both the Hams and Bacon reach you fresh, juicy and full flavored.

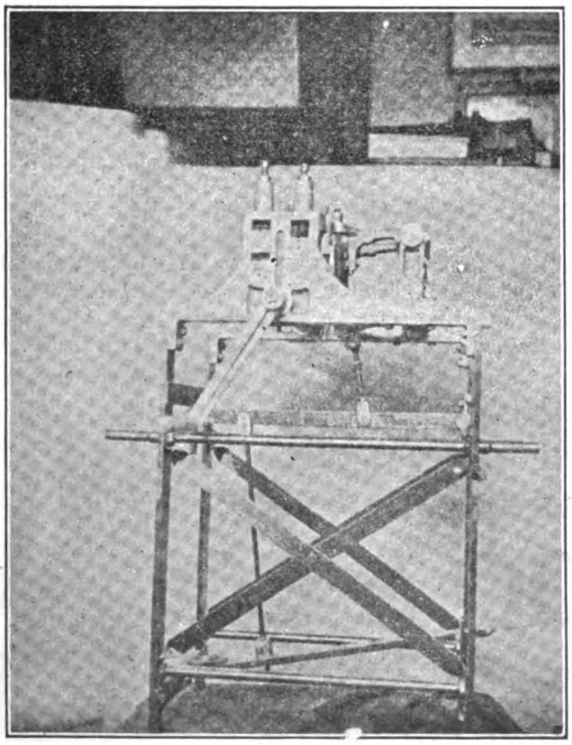
Swift & Company, U. S. A.

ORIENTAL HEADQUARTERS

SWIFT & COMPANY - - - - - No. 32 Nanking Road, Shanghai
WM. H. ANDERSON & CO., - - Foot Santa Cruz Bridge, Manila

# THE "DAILEY"

## Patent Hand-Power Hemp Cleaning Machine



WEIGHT 172 LBS.

Capacity 150 lbs. of clean, white Brilliant Fiber per day.

FOR PRICES AND PARTICULARS *Address*

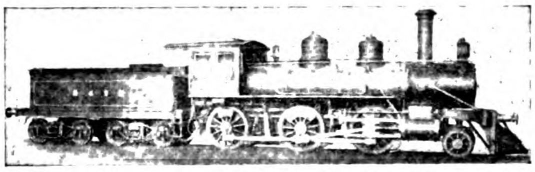
## *C. E. DAILEY*

82-92 BEAVER ST. NEW YORK

# Baldwin Locomotive Works

Principal Offices and Works:
PHILADELPHIA, PA., U. S. A.
Cable Address: "Baldwin, Philadelphia"

*Agents for China: ARNHOLD, KARBERG & CO.*
*Agents for Japan: FRAZAR & SALE, Yokohama*



Builders of LOCOMOTIVES of every description

Including ELECTRIC LOCOMOTIVES ELECTRIC TRUCKS

# Standard Steel Works Co.

HARRISON BLDG., PHILA., PA., U. S. A.

SOLID FORGED AND ROLLED STEEL WHEELS

STEEL TIRED WHEELS, FORGINGS

STEEL AND IRON AXLES, CASTINGS

ELLIPTIC AND HELICAL SPRINGS

THE FAR EASTERN REVIEW
COMMERCE ✿ ENGINEERING ✿ FINANCE

VOL. VII. MANILA, P. I., SHANGHAI, AND YOKOHAMA, AUGUST, 1910 No. 3.

# AMERICA IN CHINA (*)

By THOMAS F. MILLARD.

All great international crises have an issue which serves to formulate and focus the greater propositions involved. Recent events and present conditions indicate that the forthcoming crisis in the Far East will pivot upon the question of railway development in China.

Careful consideration of the beginnings and progress of railway development in China demonstrates that political rather than fiscal foreign interests predominated in drafting the terms by which they were built; indeed, this was so apparent that it soon provoked diplomatic action to check certain tendencies. The first important move of an international character *á propos* of these questions was the understanding arrived at among the principal foreign powers known as the Hay Agreement, which was promoted by the United States. Although this agreement is general in terms, and explicitly applies to the open door and integrity of China, the occasion of its being advanced was the tendency of railway agreements between China and foreign governments, the specific instance being some aspects of the German concession in Shantung. By this move the United States secured the assent of the greater powers to the principle that none would exploit railways in China for the advantage of itself and its nationals, and would not assert any exclusive or preferential privileges based on such concessions. Since the Hay Agreement was made public, in 1899, no foreign power has ventured openly to flout it until within the last few months, although it was surreptitiously evaded in many ways.

Prior and subsequent to acceptance by the powers of the principles of the Hay Agreement, numerous diplomatic communications passed between foreign nations and China, and between foreign nations concerning their mutual attitude toward questions involved therein. Some of these communications were secret, but the more important ones have been made public from time to time. Meanwhile came the Russo-Japanese war, which created a new balance of interest and provided eastern affairs with a new diplomatic basis. In the Portsmouth treaty are the following clauses: "*The Imperial Government of Russia declare that they have not in Manchuria any territorial advantages or preferential or exclusive concessions in impairment of China's sovereignty or inconsistent with the principle of equal opportunity;*" and "*Japan and Russia reciprocally engage not to obstruct any general measures common to all countries which China may take for the development of the commerce and industry of Manchuria.*" The Anglo-Japanese alliance, and every international agreement which has been *made public* by governments since the Russo-Japanese war relating to China, has re-affirmed these principles.

THOMAS F. MILLARD,
JOURNALIST AND AUTHOR.

I will not now review the commercial campaign of Japan in Manchuria and Korea immediately after the conclusion of peace, which made a mockery of the open door, but will confine discussion to the issue of railways. Soon after the war, China prepared to begin development of her Manchurian provinces, which long have been backward because of inaccessibility. Railways promise to change this, and to open the comparatively unsettled and fertile regions of the north to be populated and cultivated by Chinese emigrants from densely and over-populated provinces. What this means to China may be instantly perceived. Furthermore, it may be conceded that China probably has political considerations also in mind in these arrangements—it would be strange after her experience of recent years if she had not—and wishes by this means to drive a wedge between Japan and Russia, and open a way to preserve the neutrality of Chinese territory.

From China's standpoint these purposes are legitimate, and logically cannot be assumed to threaten any valid foreign right or interest. An extension of the Imperial Railways of North China northward to the Amur had been projected for years, and tentatively is marked on modern maps of the Empire. In 1897 China made a contract with a British firm (Pauling and Company) to build an extension of this railway from Hsinmintun to Fakumen. Objection was made by Japan on the ground that this extension would parallel part of the South Manchurian Railway, which Japan secured by the Portsmouth treaty, and she produced in support of her position an alleged *secret* clause of the Yuan-Komura agreement made between Japan and China, concerning Manchuria, in 1905. China denied that she had accepted this secret agreement; but Japan induced England to refuse support to the British firm, and China was compelled to abandon the project. This incident is significant in several ways, and especially because it is the first definite evidence of England's policy to support her ally in the north even at detriment to British commercial interests.

There is no doubt that China, in projecting extensions of her railways in Manchuria, designed to create there a wider international balance of interest, and to this end she desired them to be financed by British and Americans. In the summer of 1908 (August 11), Tang Shao-yi made an agreement with Willard Straight, then American Consul-General at Mukden, that American capital would be em-

(*) Published in the *Forum*, July, 1910.

ployed in constructing the section of the proposed line from Tsitsihar to Aigun, the idea then being that the southern section would be constructed by British interests. The deaths of the Emperor and Empress Dowager, the dismissal of Yuan Shih-k'ai and other events followed, and these projects were temporarily held in abeyance. Meanwhile, Mr. Straight had notified his government of the signing of the memorandum concerning the financing of the northern section of this railway, and soon afterward was himself transferred to the State Department, which he left in 1909 to become agent in China for the American Banking Group which, with the approval of the Government, was organized to finance American participation.

The Tsitsihar-Aigun section really provided the basis for organizing the American Banking Group, for it was a definite piece of business in sight; but even for a time obscured this project by arousing international comment about a similar matter. This is the attempt by China to finance various sections of railways designed to complete the Canton-Hankow and Hangkow-Chengtu lines, and which are grouped under the name of the Hukuang loans. This loan had been projected for several years, and in 1909 an agreement was formulated whereby it was to be financed and constructed, under the usual foreign loan stipulations with some modifications, with British, German and French capital. At this juncture the American Government reminded China that the Chinese Government specifically had promised that if when it was ready to build these roads it required foreign capital, American interests would have an opportunity to participate. When other foreign interests got wind of threatened American intervention, they tried to rush the matter to a conclusion, which brought about some rather sensational moves, including President Taft's personal telegram to the Regent asking that the agreement should not be concluded without American interests being given a chance to participate. As there was no legitimate ground for excluding Americans, the other foreign interests were impelled to assent to their participation, although there was some irritation over the matter. It was agreed to admit Americans, and then followed a period of negotiation about terms which lasted several months. Discussion turned upon how construction work of various sections is to be apportioned among the four foreign interests, and in this matter England took an attitude which has resulted in practically blocking progress. It was thought that a compromise had been reached, and a meeting of representatives of all interests was appointed at Peking for September 23, 1909, when the agreement was to be signed. At this meeting Mr. Hillier, the British representative, informed the other participants that he had been instructed by his principal, the Hong-kong and Shanghai Banking Corporation, acting under instruction from the British Foreign Office, that he must not sign. The reasons nominally advanced by British interests for not signing the agreement as prepared are too complex to be elucidated here, but they involve no important principle and amount agreement with British interests about the Fakumen section, although logically it had been abrogated when the project fell through because England would not support it. A result was that the British interest which had been thrown over by its own government in that matter came

H. E. TANG SHAO-YI
ENTERED INTO AGREEMENT WITH MR. WILLARD STRAIGHT IN 1908 THAT AMERICAN CAPITAL WOULD BE EMPLOYED IN CONSTRUCTING PROPOSED LINE FROM TSITSIHAR TO AIGUN.

to a dispute about small details and profits; which indicates beyond reasonable doubt that political considerations actuated the British Government in its action.

While negotiations concerning the Hukuang loan thus were being tied up by England, the representative of the American Banking Group had been busy about the matter of Manchurian railway extensions. Upon consultation with the Chinese Government Mr. Straight found that it wished if possible to keep its to an agreement with the American Banking Group by which a consolidation was effected jointly to promote a railway from Chinchou to Aigun, penetrating the same territory which would have been opened by the Fakumen section, but keeping far enough away from the South Manchurian Railway to avoid Japanese objections. Americans are to finance and British to construct the road. China is very anxious to build this railway as soon as possible, as it has been delayed for years by

war and other causes. Semi-official attempts privately were made by British diplomatic representatives in Peking to prevent a consolidation of British and American interests in this project, and to induce the British contracting firm to join with Japanese interests in the matter; but the British firm objected to this affiliation on business grounds, and it also knew that China would rather not build the road than have it financed by Japan; moreover, it was a foregone conclusion that Russia would be alarmed—and justly too—by such an arrangement. It was thought by China andby the American Group that its participation would not cause alarm. On October 2, 1909, a preliminary agreement for construction and financing of the Chinchou-Aigun Railway wassigned at Mukden by Viceroy Hsi-Liang for China, Willard Straight for the American Banking Group and Lord French for Pauling & Company. These negotiations were conducted with celerity and secrecy, for already diplomatic influence was being exerted to obstruct them. Japan, ever alert, had made inquiries of the Chinese Government, claiming that if anything was contemplated she ought to participate. Notwithstanding diplomatic pressure to prevent it, an Imperial edict ratifying the preliminary agreement was issued January 21, 1910. The British Foreign Office refused to join the State Department in requesting that the agreement be confirmed; but on the contrary notified the Wai Wu-pu that Japan should be consulted.

It now is necessary to go back to when the proposal internationally to neutralize all railways in Manchuria was made to the interested powers by Secretary Knox. This was presented simultaneously to Russia and Japan on December 18, 1909. Prior to this it had been laid before China, who was glad to assent, since its acceptance and promulgation would have relieved her of foreign interference in her northern provinces and clarified the whole eastern situation. The proposal was given publicity by Japan and Russia after they mutually had agreed to reject it. While those governments were making a pretense of taking time to consider the proposal (there is evidence that they agreed to reject it within a week after it was received), they began to exert pressure at Peking to prevent issuance of the edict ratifying the Chinchou-Aigun agreement. This is significant, for the Chinchou-Aigun Railway agreement was a factor in the matter, because it gave Americans and English a vested interest in Manchuria; and in proposing that a reversion of existing railways to China be financed by an international syndicate American interests had something to put into the pot. When it was known that an edict would be issued, effort to forestall it by previously announcing the rejection of the neutralization proposal was made, but the rejection came one day too late, on January 22. Perhaps before proceeding it should

H. E. HSI SIANG,
VICEROY OF MANCHURIA WHO SIGNED THE CHINCHOU-AIGUN AGREEMENT FOR CHINA AT MUKDEN IN OCTOBER, 1909.

be stated that the legal basis of the neutralization proposal is the vested right of China, by treaties with Japan and Russia, to purchase the Manchurian railways at a fair valuation at the end of a fixed period, now about 24 years distant; and this will be the eventual disposal of them unless Japan and Russia break the treaties; so Mr. Knox merely suggested that this recovery be anticipated.

I will discuss the reasons given by Japan and Russia for rejecting Mr. Knox's proposal only to discover their *bona fides*. There was an inspired outburst from the press of both countries characterized by a palpable effort to veil the facts with a cloud of false issues. Even statesmen joined in the chorus of misrepresentation. Count Hayashi talked about "confiscation"; which was rather an inadvertence, for Japan should be chary of referring to confiscation in connection with Manchuria. It hardly is necessary to say that the proposal contemplated that Japan and Russia would be paid for their interests. The official replies were evasive and give no specific reasons for declining. From Japan's reply one might glean that she fears that if she gives over her part of the railways to China, her business interests in Manchuria will suffer. It is not clear how, unless Japanese commerce and industry in Manchuria now enjoy special advantages from Japan's administration of the South Manchurian Railway; which Japan vociferously denies. Count Komura in an interview suggested that it would be unwise to "burden" China with the debt necessary to finance such a purchase. This is really funny. The South Manchurian Railway is now paying very well, I believe, and one hardly sees how China would suffer by possessing it providing she bought it at a fair price; moreover, Japan herself equipped it with borrowed capital, which she now owes. Russia made her official reply very vague, contenting herself with references to "interests" which would be detrimentally affected. Russia might, with some reason, have protested that it would be a pity to load China with her part of the railways, which are now losing about $2,500,000 a year owing to maladministration and peculations of officials and employees. It can be demonstrated, I think, that naturalization of Manchurian railways on the line of Mr. Knox's suggestion will benefit Russian interests both commercially and strategically, and she may soon awake to discover that she was Japan's cat's-paw in this matter. But I suppose no intelligent persons anywhere took the Japanese and Russian reasons for rejecting the proposal as seriously representing the real objections of those governments.

With the rejection of the Knox plan, which would have included the Chinchou-Aigun Railway, the diplomacy which is actively trying to keep American interests out of China was concentrated on it, and developments came rapidly. The issue raised in these negotiations contains the possible genesis of a great war which may involve the United States, and so at risk of being thought prolix I will elucidate their more important and significant phases. One cannot doubt, when the diplomatic representations are considered in sequence in the light of the existing international alignment in the East, that in this matter Russia, Japan, England and France acted by mutual agreement under a private understanding between those nations. While fully to comprehend their import requires some explanation, the various representations made in the course of putting the screws upon China and the handcuffs on American diplomacy in the Orient are extremely illuminating and significant, and I will quote the more important ones in full in the order of their presentation. In all quoted communications the italics are inserted by me for emphasis.

*The Japanese Minister to the Wai Wu-pu.*
*January 31, 1910.*

Your Excellency:

I formerly had a verbal interview with President Liang Tun-yen on the subject of the Chinchou-Aigun Railway and stated clearly to him the expectation of my Government. I also telegraphed my Government for instructions and have now a reply to the effect that this matter must be considered with extreme caution. My Government is now considering it and cannot hastily formulate its *demands*; but, as I formerly stated in my verbal interview, this is a matter which vitally affects Japan's interests. Before the Chinese Government determines anything, *the consent of my Government must first be obtained.* If the position of my country is ignored and a decision is made *without referring the matter to my Government*, it will be hard to estimate the *seriousness of the trouble* that may be caused in the relations of the two countries. I am therefore instructed to warn the Chinese Government that it must realize the necessity of caution.

With compliments, etc.

IJUIN.

*The Russian Minister to the Wai Wu-pu. February 2, 1910.*

Your Excellency:

Your Excellency formerly inquired of us verbally as to the view which my Government would take of assisting in the construction of the Chinchou-Aigun Railway. I referred the matter to my Government and now have the following reply:

The Russian Government regards this matter as one of extreme importance and until it has been carefully considered no reply can be made to China.

The Russian Minister is ordered to state clearly what he has already stated to the Wai Wu-pu, viz: that the Russian Government expects that China will not settle any such matter *without first consulting Russia. Otherwise there will be trouble in the relationship between the two countries.*

A necessary despatch, etc.

KOROSTOVETZ

*The Russian Minister to the Wai Wu-pu. February 4, 1910.*

Your Excellency:

I have received a note from St. Petersburg regarding the concession to *America* to build the Chinchou-Aigun Railway.

The Russian Minister in America has already received instructions to give Russia's reply concerning the railway *to the American Government* as follows:

*Since America has invited Russia to participate in the construction of the Chinchou-Aigun Railway and has consented to Russia's desire to take time for careful consideration of the matter before making a reply, the opinion of Russia is that in not notifying Russia and in not considering that in case Russia did not take a share she would oppose the undertaking America is conscious of having made a mistake and has therefore stopped the loan negotiations. Russia expects that nothing will be settled without first obtaining the consent of Russia.*

I now transmit to your excellency the general sense of the above communication and notify your excellency that this matter *must not* be recklessly settled without first having obtained the consent of Russia.

A necessary despatch, etc.

KOROSTOVETZ

In this communication M. Korostovetz begins by stating that he transmits to the Wai Wu-pu a communication which had been communicated to the State Department by the Russian Minister at Washington. From the language of the second sentence one would think that note is quoted exactly. The brutal phraseology used in the above Japanese and Russian communications to China may be tolerable coming from powerful nations to one not now able to resent insult; but it is difficult to believe that the language stated by M. Korostovetz was addressed by Russia to the United States, or that any nation would so assert paramount authority in any matter under negotiation between the United States and any third nation. In the last sentence of this note the language of M. Korostovetz seems to imply that he merely desires to convey the "general sense" of Russia's communication to the State Department. The Russian Government may deny that it did so address the United States in this matter, but it is a fact that the Russian Minister in Peking did send this note to the Wai Wu-pu, thereby causing China to think that Russia used arbitrary and dictatorial language in addressing America about relations between the United States and China. Moreover, M. Korostovetz's note contains several apparent mis-statements. He takes it upon himself, presuming to quote Russia's note to the State Department, to assert that America realized her mistake in not recognizing that she must consult Russia about engaging in enterprises in China, and had quit the negotiations. This caused the Chinese Government to make inquiries, and Henry P. Fletcher, the American Chargé d'Affaires, assured the Wai Wu-pu that so far as he knew the American Government had not so informed Russia.

HIS EXCELLENCY LIANG TUNG YEN, PRESIDENT OF FOREIGN AFFAIRS WHO MAINTAINED THAT CHINA CANNOT CONCEDE THAT SHE SHOULD CONSULT ANY FOREIGN NATION ABOUT DEVELOPMENT OF HER RAILWAYS.

In this connection it should be remembered that the Chinchou-Aigun Railway project is not the child of an American group of financiers, but is a long-cherished design of China; moreover, Americans have all along been willing to admit other nationalities to share in the enterprise if China is willing. These points should be kept clearly in mind.

*The Russian Minister to the Prince of Ch'ing. February 8, 1910.*

Your Imperial Highness:

I formerly had a verbal interview and also sent notes to the Ministers of Your Highness's Board on the subject of the Chinchou-Aigun Railway. I have now received my Government's instructions in regard to the reply to the American proposition for the neutralization of the Manchurian Railways and the construction of the Chinchou-Aigun Railway in the form of a memorandum, which I forward herewith.

Enclosure. A necessary despatch, etc.

KOROSTOVETZ

*Memorandum in Regard to the Chinchou-Aigun Railway. Transmitted to the Prince of Ch'ing by the Russian Minister, February 8, 1910.*

In respect to the expressed intention of the American Government to build a railway from Chinchou to Aigun, the Russian Government must declare clearly that this road would seriously affect the interests of Russia. This railway when completed would not only connect from the south with the Northern Manchurian Railway, but at Aigun would *reach the actual territories of Russia.* Thus it would affect both *military and political* arrangements and would materially change the relations of the Manchurian Railways *the eastern Mongolia and northern Manchuria.* Therefore this must be inquired into and an acceptable method of procedure must be decided upon, and *it cannot be permitted unless the Russian Government first knows the particulars of the proposed arrangements.* The Russian Government wishes to go into this matter very carefully, and *expects that the plans will first be communicated to it.* After carefully considering the plans the Russian Government will reply as to the construction of the railway, and *will issue a definite pronunciamento as to the conditions on which this railway may be built*

*In regard to all future railways in Manchuria* which China may propose to build with borrowed capital, *the Russian Government must be first consulted* and must first consider if the plans have any consequences to the *military and political interests of Russia,* or to the Northern Manchurian Railways, *thereafter determining*

*what must be done* to balance the influence of the arrangements made for the said railways.

Well, here we have it. All pretense that Russia's objection is based on possible commercial injury to the Chinese Eastern Railway—in fact, the construction of the Chinchou-Aigun Railway would have an opposite result—is dropped, and it clearly is stated that the chief objections are political and strategical. Which is to say that Russia formally asserts the right to regulate and control railway development within portions of China in the light of Russia's political and strategical interests, and to exclude American participation on these grounds. If language and all the logic of circumstances can make anything clear, it has done so in this instance. The fact that this memorandum was sent to Prince Ch'ing instead of to the Wai Wu-pu shows that all possible influences were being brought to bear to bully the latter, for it is well known that Prince Ch'ing takes slight interest in foreign affairs and does not keep posted about details. This move evidently was designed to frighten the Court, and bring indirect pressure to bear upon the ministers in the Wai Wu-pu.

At this point some of the reserves went into action. On February 9th, the day after the above memorandum was presented by the Russian Minister, Max Muller, the British Chargé d'Affaires, went to the Wai Wu-pu and discussed the matter with H. E. Liang Tun-yen. England was too foxy to put herself on record in writing; but Mr. Muller informed H. E. Liang Tun-yen that England feared China was going to be led into serious difficulty by America in this matter, and suggested caution, which was a diplomatic way of giving American interests a backset. He further stated definitely that his Government feels that China should *consult Japan and Russia* about railway development in Manchuria. About this time, also, the French Government came to the assistance of its ally in frightening China, and made representations.

*The French Minister to the Wai Wu-pu.*
*February 10, 1910.*

Your Excellency:

The French Government with a view to China's welfare intends requesting the Chinese Government not to make any agreement with any other nation regarding the Chinchou-Aigun Railway previous to consulting Russia and Japan regarding the same. Thus international friction in Manchuria will be obviated and the welfare of all nations promoted in Asia.

DE MARGERIE.

*The French Minister to the Wai Wu-pu.*
*February 18, 1910.*

Your Excellency:

The Government of the French Republic, with the idea that it is in the interest of China to avoid everything which may occasion complications or difficulties in the extreme Orient, and to maintain harmonious relations among the powers *now having interests in Asia*, desires to recommend to the Imperial Chinese Government not to conclude an arrangement on the subject of the railway line between Chinchou and Aigun *without previously having come to an agreement with the Russian Government and the Japanese Government.*

DE MARGERIE.

*The Japanese Minister to the Wai Wu-pu.*
*February 14, 1910.*

Your Excellency:

The Imperial Government of Japan looks upon the construction of the Chinchou-Aigun Railway as a matter of great importance in its effect upon the prosperity of the South Manchurian Railway. Yet the Chinese Government has for its aim in constructing this railway the development of Manchuria and Mongolia. The Japanese Government takes this into consideration and makes the following propositions with a view to assisting in the construction of the road.

1. Japan will participate in the construction of the Chinchou-Aigun Railway by sharing in the loan, furnishing engineers and railway materials, and participating in the construction work. The rules under which such participation shall take place will be amicably arranged with the powers concerned.

2. In order to connect the Chinchou-Aigun Railway with the South Manchurian Railway, *China will construct a branch line from some station on the Chinchou-Aigun Railway toward the southeast to some station on the South Manchurian Railway.* The location of said line and the point at which it shall connect with the South Manchurian Railway *must* be settled by amicable discussion with the Japanese Government.

It will be observed that the Japanese Government overlooks the important consequences to the South Manchurian Railway which will be caused by the construction of the Chinchou-Aigun Railway, but certainly the reason for assisting in the construction of the Chinchou-Aigun Railway is because the projected line of the railway, starting from Chinchou and passing through Taonan-fu, is at a great distance from the South Manchurian Railway. If the proposed location of the railway is to be materially changed, the Japanese Government will have a concern in this and *will expect to be consulted.*

IJUIN.

Japan thus does not officially oppose the construction of the Chinchou-Aigun Railway, however taking care to assert her right to be consulted as to its location; but she insists upon participation, and upon terms which are impossible for China to accept without stultifying herself—which is equivalent to obstruction. This proposal by Japan to assist in financing the new line and in providing materials illuminates her *bona fides* in advancing the suggestion; for the Japanese Government is letting its railways in Japan run down for lack of money, has borrowed abroad, partly in America, the funds to rebuild and equip her South Manchurian Railway, is soon going to try to float another foreign loan for further improvements; and no railway materials of consequence are made in Japan. Nothing is more certain than if Japan should get the right to participate in financing this road she would have to borrow her share to lend it in turn to China, and that her share of supplying railway materials would be merely to act as agent for the purpose of exacting a commission.

Next followed the Russian counter-proposal.

*The Russian Minister to the Wai Wu-pu.*
*March 4, 1910.*

Your Excellency:

The Wai Wu-pu formerly asked the Russian Minister verbally for the views of the Russian Government on the project of China to construct a railway from Chinchou to Aigun. The Russian Minister notified the Russian Foreign Office so that it might take it into consideration. A telegram has been received directing the Russian Minister to state that the Russian Government, having carefully considered the proposal of China to build a railway from Chinchou to Aigun, has concluded that it would result in serious injury both to the *Russian frontier defenses* and to her commercial interests.

In the 25th year of Kuang Hsu (1899) the Chinese Government declared that in constructing all railways northward from Peking capital would be borrowed from no other country than Russia. The Russian Government would not be disposed to insist upon China complying with her former promise in this matter of her borrowing capital for the construction of railways if Russia's *frontier defenses* and profits in respect to the Manchurian Railways were not affected. The Russian railway experts have reported that the Chinchou-Aigun Railway cannot fail to take from the Russian Manchurian Railway profits on transportation to the amount of 5,000,000 rubles annually, and will ruin the property which *China has a right to regain after a period of 29 years*, or which will revert to China free of cost after a period of 73 years.

The Russian Government is of the opinion *that the capitalists concerned in this enterprise* have no other object in making the loan than the obtaining of profit and *that they have no political aims.* If therefore the railway which it is proposed to build from Chinchou to Aigun should be constructed elsewhere, the commercial advantages would be equally great, while Russia would suffer no injury. The foreign capitalists should have no objection to this. In view of the above considerations, the Russian Government now proposes to the Chinese Government that instead of building a railway from Chinchou to Aigun it build a line connecting with the Peking-Mukden Rail-

way from Kalgan to Urga and thence northward to Kiakta on the Russian border. It is understood that China has long had an intention to build this railway, so that China and the foreign nations would be of one mind about this. The difficulty of China which has caused her to hesitate up to the present is that since this railway would not connect with the trans-Siberian Railway it could not be very profitable. The Russian Government would not be averse to establishing such a connection, and would be willing to build a branch road from a station on the railway in the Province of Trans-Baikalia to Kiakta. But in the event of China's building this Kalgan-Kiakta railway she should allow Russian capitalists to be responsible for building the section *from Urga to Kiakta.*

The Russian Government greatly hopes that the Chinese Government will see clearly in this proposal the mutual advantages which would accrue to both countries.

The Russian Government would gladly accede to the wish of the Chinese Government to build a railway in Manchuria with borrowed capital if it did not affect *Russia's frontier defenses* and the profits of her Manchurian Railways. Therefore Russia now brings forward this proposal and trusts that the Chinese Government will show a friendly spirit in helping to carry it out. The American and other Governments concerned have already been notified of the views of Russia.

A necessary despatch, etc.

KOROSTOVETZ.

This memorandum was immediately supported by the French Government.

*The French Minister to the Wai Wu-pu. March 4, 1910.*]

Your Excellency:

The Government of the French Republic, desiring to get settled the question of the railways in the north of China originally brought up by the proposal of the *Government of the United States* in connection with the construction of a railway between Chinchou and Aigun, by way of Tsitsihar, believes, however, as it has already made known to the Chinese Government, that this project (Chinchou-Aigun) cannot be realized without the risk of raising certain complications, unless by agreement with the *governments principally interested, notably Russia;* now convinced, besides, of the unfavorable consequences to Russia which the projected railway may have *in relation to her northern frontier* and the commercial interests of the Manchurian Railway, the French Government thinks, with the Imperial Government of Russia, that the interests of the financiers *who have proposed to China* with a purely commercial object a loan for the construction of the Chinchou-Aigun line will be fully satisfied if the Chinese Government should construct, with the aid of the same financiers, the prolongation of the Kalgan Railway toward Urga and Kiakta.

The Government of the French Republic is convinced that this line, the construction of which in an important Chinese region would not give rise to any political question, and, besides, having been fully considered, would likewise offer serious advantages to China.

It [The French Government] would consequently see with particular satisfaction the Imperial Chinese Government accept the propositions which have been submitted in this connection by the Imperial Russian Government.

DE MARGERIE

This concludes written representations made to the Chinese Government up to this writing in regard to this question. The Chinese Government has made so far no replies except to acknowledge their receipt; but H. E. Liang Tun-yen has verbally told ministers of several powers that China cannot concede that she should consult any foreign nation about the development of railways within her boundaries.

It is interesting to note that in the phraseology of the Russian counter-proposal suggesting a Kalgan-Kiakta line there is a reversion to customary diplomatic courtesy, and the dictatorial tone employed in previous communications is not used in this. Russia "trusts that the Chinese Government" will do so and so, and insists that China "should allow" Russian capitalists to construct the section from Urga to Kiakta, about 150 miles, thus holding China off from her border. "Must" and "shall" are not used so freely. Another point can be noticed. In previous representations the Russian Minister had explicitly denominated the American Government as going to build the Chinchou-Aigun Railway. I mention this merely to show that a calculated effort is being made to create an impression here that the Chinchou-Aigun Railway is an American political scheme to encroach upon China. In the communication of the French Minister this insinuation is maintained—"proposal of the Government of the United States" and "financiers who have proposed to China" being expressions used in alluding to the origin of this project. The French and Russian Governments know perfectly well that the United States Government never has built and does not now own or operate a single mile of railway in the world, even within its own territories, and that it has no thought of engaging in the railway business in foreign countries. It is impossible to think that the phraseology used in these official notes is inadvertent. The Chinchou-Aigun project originated with China, and was talked of for years before American participation was thought of.

But why should France, assuming to decide what is better for American financiers, break into this question? It reasonably may be assumed that one reason is that she does not wish to see the strategical position of her ally, Russia, weakened in the north; or she may have acted solely at the request of Russia. A phrase used in the French note has, however, a somewhat wider significance, and brings out an interesting suggestion. I mean the reference to the relation of Russia's northern frontier to the Chinchou-Aigun railway. This broaches a very important matter for China, and provides a clue to the solidarity of Russia, Japan, France and England in this question. These powers all have territorial possessions bordering upon China and connected with her domain by railways crossing a land frontier. The phraseology of the diplomatic representations in this instance leaves no room for doubt that a concerted effort is being made to establish a precedent that China will not be permitted to build railways toward her land borders except with the permission of foreign nations, which reserve to themselves to decide how and where such railways, if permitted at all, must be laid. It is clear that if this condition is established China never can be able, except at great disadvantage, to defend her territories from invasion.

Although Japan and Russia have in effect acted together in this question of railway development in Manchuria, it is not because of friendship between the two nations, nor yet on account of real community of interest. In fact, Russia and Japan are driven together in this matter because of hostility and fear of each other. An analysis of the strategical situation in eastern Asia clearly demonstrates this. Japan now owns and controls railways entering Manchuria and penetrating toward her point of contact with Russian influence as follows: Through Korea and via the Mukden-Antung Railway to central Manchuria; from Port Arthur, Dalny and Newchwang via the South Manchurian Railway north as far as Kuangchentze. The engineering difficulties presented in constructing the Mukden-Antung Railway and the character of the country through which it passes indicate that it perhaps never can be operated profitably, intimating that it is built now for purely strategical reasons. Then Japan has secured from China the right to build a road from Kirin eastward to Hunchun, near the mouth of the Tumen river, a short distance from Vladivostok. A road from Gensan, on the east coast of Korea, proceeding northeast to the Yalu, with a connection with the Korean railway at Anju, has been projected and authorized; and a railway connecting the proposed naval base in North Korea with Hunchun has quietly been surveyed. When these railways are finished, which probably will be within three years, Japan can throw troops into Manchuria and to the borders of the Ussuri littoral over several routes. Thus she is firmly entrenching herself in Manchuria and Korea.

Against this Russia has her part of the Chinese Eastern Railway, with the stub to Kuangchentze. It will be several years before the Amur Railway is finished. It should be noted that in Japan's representations stating her attitude toward the Chinchou-Aigun Railway, she only will

assent to its construction provided it is connected with the South Manchurian Railway. The reason is that this road would cross the Russian railway near Tsitsihar, which would make it a strategical vantage for Russia, and enable her quickly to move troops southward; while unless Japanese roads connect with it Japan would have no effective means of quickly countering such a movement. On the other hand, if this road is connected with the South Manchurian Railway, it will give Japan one more avenue to reach Russia's flank and rear. Japan so far has not intimated her attitude to Russia's counter-proposal to build a road from Kalgan to Kiakta, but there is hardly any doubt that if such a project takes practical shape (of which there is no present prospect) she would find that her strategical position would thereby be weakened, and object. Commercially, there is ample room for both these proposed railways, and both should be built in China's interest.

Perhaps it is not necessary to say more to demonstrate that rejection of the neutralization proposal and objections to the Chinchou-Aigun Railway are entirely lacking in regard for China's interests, and to plain provisions of the Portsmouth treaty; but owing to their having been brought into the discussion some other phases may be mentioned. These chiefly refer to the attitude of England. Replying to questions in parliament, the British Government has explained that its action in insisting that China should consult Russia and Japan about railway development in Manchuria is based upon the almost forgotten Scott-Mouravieff note exchanged by England and Russia in 1899, and when these nations mutually agreed not to attempt railway exploitation north of the Great Wall and in the Yiangtse valley respectively. In this connection it is interesting to recall that only a few months ago Russia made formal request to be admitted to participation in the Hukuang loan, showing that she then regarded the Scott-Mouravieff understanding as a dead letter. England now publicly drags if forward as a binding instrument upon her; but admitting that she may place her own construction upon it, how is it possible to deduce that a mutual understanding between England and Russia can affect China's rights or the rights of other nations? It is very significant indeed how all the old addenda of "sphere of influence" times are being dug up, dusted and adjusted to the present situation. At any rate, we now may learn where England stands. Compared to what Americans thought they might expect from England in the East, her recent conduct savors of duplicity. It now is felt here that England will not permit the Hukuang loan to be consummated if she can prevent it, having decided to revive the "sphere of influence" doctrine, and if possible keep other nations out of the Yiangtse valley. One cannot doubt that British statesmen have resolved to sacrifice British interests in the north rather than see the strategical position of her ally there weakened. And so, weighing advantages and disadvantages as she now sees them in the light of her broader imperial interests, England has sided in this matter with the predatory powers in China. We may be sure that England has not thrown over a large British interest and brought her quota of pressure to bear upon China without a *quid pro quo*, and we logically can surmise this to be that if similar issues arise in the Yiangtse valley—as, for instance, the Hukuang loan—Russia, Japan and France will advise China that she must not proceed without consulting England. The present impasse could not have been reached without the assent of England. We have been thinking that the interests of England and America in China are sympathetic; but evidently the present British ministry takes an opposite view.

Germany was pressed by some nations to address China in regard to the Chinchou-Aigun Railway in similar terms to those used by Japan, Russia, France and England; but she declined to do so.

To recapitulate, we find that the following issues affecting the sovereignty of China and the open door principle within her territory have been sharply defined:

1. The right of China to decide upon the course of railway development within her territory is denied by certain foreign nations.
2. Certain foreign nations have declared that their strategical and political interests must be considered as paramount in planning a railway system within China's territory.
3. Certain foreign nations have asserted the right to decide who will finance, construct and operate railways within China's territory; and to veto arrangements in regard to these matters which China has made and wishes to carry out.

In respect to the United States, this issue has been raised:

*Foreign nations have asserted the right to interfere in business transactions between American citizens and the Chinese Government, in express violation of treaties between the United States and China, and of numerous solemn covenants of those governments with China and the United States; a doctrine which is susceptible to world-wide application.*

In the time pending decision of these issues there will be an immense amount of representation designed to obscure what is involved, and one can foresee that much propaganda will attempt to demonstrate to the American people that their interests are not materially affected by questions thus mooted. These arguments can be classed under the following heads: that American trade and commercial opportunity in China are not worth running a risk of war to protect them; and that American commercial and financial interests and opportunities in China are not threatened by conditions which will arise if the present *status quo* becomes established. In China and throughout the world all the influences which can be employed by the international combination which has been effected in this matter will subtly and openly be used to attempt to demonstrate that America is seeking to exploit China for selfish and sinister designs, and in the interest of an American plutocracy; that she is unduly interfering where she has no adequate rights; that Americans are bent upon monopolizing the trade and development of the Far East to the exclusion of other foreign interests. Already the foreign press of the East, among which American interests have no representation, is carping in this vein; and one catches even at this distance its echoes in America and Europe. Furthermore, it seems that even the enlightened press in America is still obsessed with the idea that nothing is involved in this question except trade interests in Manchuria.

I would contradict this idea with all the force I can command. Our trade interests in Manchuria are considerable, have already been injured by conditions due to Russian and Japanese occupation, and may be further impaired by a continuation of it. Our trade with China is large, and certain to grow if not too badly handicapped. The United States is turning the corner from a borrowing to a lending nation, and within fifty years it will have more money to lend than any other two nations if present rates of national progress are maintained. China offers one of the greatest fields for this investment; and to-day China once more tentatively is being carved into "spheres" dominated by foreign powers that are commercial competitors of our nation, and doctrines are being openly asserted which logically will, if conceded or anyhow established, apply to all parts of the Empire, and to all forms of commerce and finance. Notwithstanding this, it might be argued that our interests and prospects here are not worth going to war about, if it should come to that. But the principle that any nation or nations can from consideration of their selfish interests be permitted directly to interpose between the United States and another friendly nation, and assume to decide what their relations shall be, cannot be granted nor yielded, except to force. I unhesitatingly declare my opinion that the issue raised in the matter of the Chinchou-Aigun Railway, broadly viewed, is one which any self-respecting nation, if forced by antagonistic diplomacy into a position where it is squarely put, ought to go to war about.

Americans will do well to take this question seriously. The Far Eastern situation already has modified our relations with Japan, and it appears from recent events that it will affect our attitude toward other nations, including England; perhaps may estrange us from her. If this occurs, we shall be compelled to consider whether the possession by England of her present naval superiority over us is compatible with our legitimate national aspirations and growth. We now safely may conclude that international assurances concerning the integrity of China and the open door are, in the case of several

# (*) MANILA WATERWORKS AND SEWER CONSTRUCTION

The Department was organized in March, 1905, by virtue of Act 1323 of the Philippine Commission, with the undersigned as Chief Engineer. Previous to this date preliminary studies had been made of the water system by the undersigned, and of the sewer system by Mr. O. L. Ingalls. From these studies plans were prepared, and in February, 1904, Mr. Desmond Fitzgerald, Past President of the American Society of Civil Engineers, examined the plans as Consulting Engineer. He approved the design for the water system in its entirety. In the sewer system plans he advised eliminating the proposed pumping station at Calle Herran, since the movement of the currents in the bay were likely to carry the sewage into the new harbor area. When this and some other minor changes were incorporated, he approved the sewer plans also.

Immediately after the formation of the Department, the undersigned proceeded with the preparation of the final plans and specifications. Proposals for the construction of the water system were invited on July 20th, 1905, and for the sewer system on January 12th, 1906; and contracts were awarded as follows:

Water System:—For the dam and reservoir to the Matson, Lord & Belser Co.

For the steel pipe line and tunnel conduit, to the Atlantic, Gulf & Pacific Co.

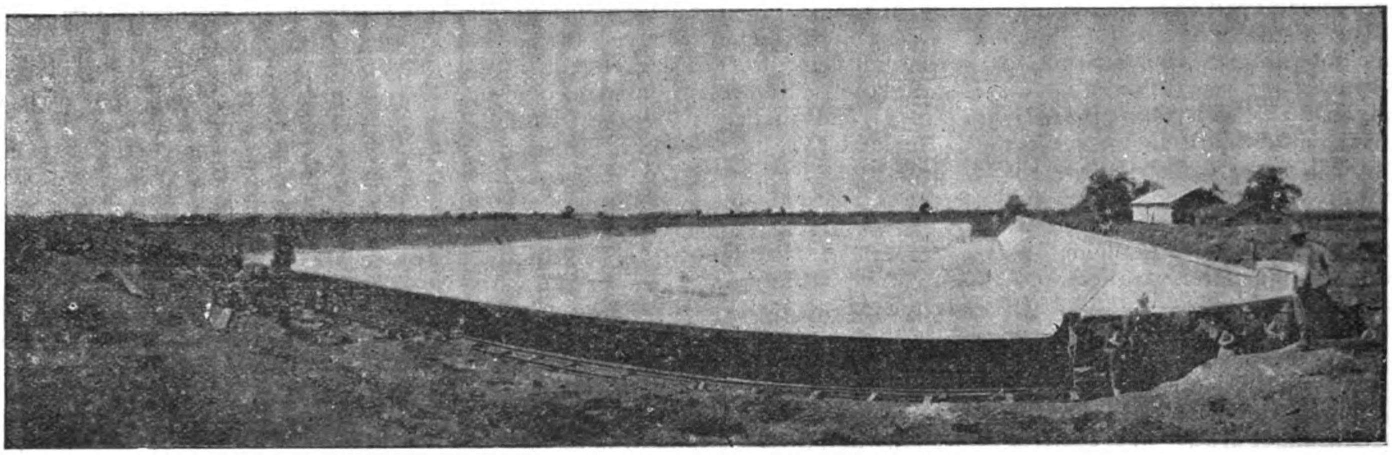
For furnishing steel plates and rivets, to H. W. Peabody & Co.

Sewer System:—For the entire work, to the Atlantic, Gulf & Pacific Co.

Construction work was promptly started by all contractors. The Matson, Lord & Belser Co. sublet the construction of the dam to Mr. Salvadore Farre, and the reservoir to the Manila Construction Company. All other work was carried on by the contractors themselves. A road along the pipe line and conduit was built by administration, the work being necessary before any contracts could be let.

Briefly stated, the water system consists of an impounding and diversion dam constructed at a gorge in the Mariquina River Valley whose elevation is sufficient to supply the City of Manila by gravity. This reservoir contains approximately five hundred million gallons of water in storage, which is sufficient to tide the city over a possible dry season when the yield of the stream itself might be deficient. The elevation of the top of this dam is 214 feet above city datum. This dam is constructed of cyclopean masonry or concrete in which large stones are imbedded, all faced with cut limestone from the adjacent mountains. It is a gravity section; that is, of weight and strength sufficient to resist any water pressure to which it might be subjected. In addition, it is arched against the water pressure as a further precaution against earthquakes or other disturbance. At both ends it is built into the solid rock. It was anticipated that this dam could be founded on solid rock throughout its entire length, but for a short distance in the bed of the stream the ledge was lacking and it was necessary to place the foundations on heavy boulders imbedded in clay, which experience proved to be impervious. The bed of the stream is approximately elevation 178, and the lowest point of the masonry is at approximately 142.

A sluiceway five feet square in section is provided through the dam, and a 36-inch cast iron wasteway will remove any possible sediment from directly under the intake. The water may be drawn from four different elevations into the inlet well. From this well it is controlled by four sluicegates, 20 by 24 inches each. After passing these gates it enters the screen chamber where, by means of a rotary screen, all fish, trash, etc, will be removed. Passing the screens, the water enters a riveted steel pipe 42 inches in diameter, approximately 10½ miles long. The first 900 feet is laid through a tunnel in the cliff forming the south side of the gorge, but from there on it was all laid in open trench. For the first three miles the pipe follows the river closely but on reaching the broad Mariquina Valley it follows a straight line a distance of more than 12 miles to the reservoir. Under the Mariquina River a 36-inch cast iron pipe is substituted for the steel pipe. On reaching the high grounds on the west side of the River, the pipe gives place to the masonry-lined tunnel conduit. Steel plates and rivets were furnished under contract by H. W Peabody & Co., and the pipe was manufactured at the shops, built for the purpose, of the Atlantic, Gulf & Pacific Co. It was built in sections of six courses, approximately 6 feet long each, or 36 feet per section. From the shops these sections were transported by rail and wagon to the site of the trench where they were riveted together by hand. A suitable number of air valves and blow-offs were provided, and one standpipe.



GENERAL VIEW OF NEW RESERVOIR AT SAN JUAN DEL MONTE CONSTRUCTED BY THE MANILA CONSTRUCTION CO.

After riveting the pipe, and before covering it, it was pumped full of water and subjected to not less than 75 pounds hydraulic pressure. Any leaks developing under this pressure were then recaulked and the line made satisfactorily tight. On completion of the pipe line a bulkhead was placed in its lower end, and the pipe was filled with water from the headworks and placed under its entire hydrostatic head, this being far in excess of any future requirement. Careful measurements of the leakage under these conditions were made, and the result was a gratifying proof of the excellence of the work.

The tunnel and conduit is a masonry-lined horseshoe section with a vertical diameter of approximately five feet. It has masonry lined inclined shafts for points of entrance placed at about one-half mile intervals. Considerable difficulty was encountered in driving this tunnel on account of the excessive amount of ground water encountered, but it was successfully completed. The water discharges from this conduit into the distributing reservoir on the hills of San Juan del Monte. This reservoir has a capacity of approximately 50,000,000 gallons, is masonry-lined throughout, and is provided with controlling and discharge gates. One feature of its construction is that the conduit may be used as a bye-pass so that the reservoir may be emptied and cleaned without interrupting the supply of water to the city.

VIEW SHOWING RUBBLE OR CYCLOPEAN MASONRY.

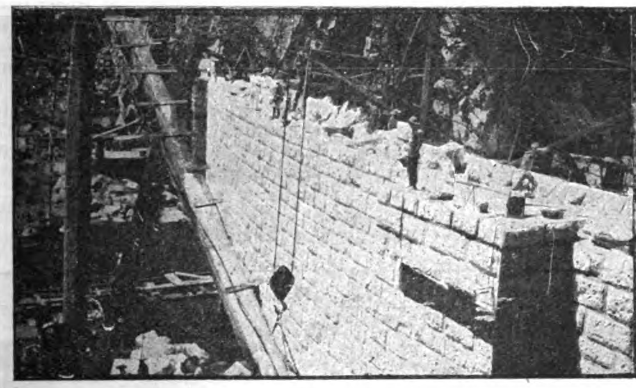
*Final report of Major J. F. Case, Chief Engineer, Department of Sewer and Waterworks Construction.

---

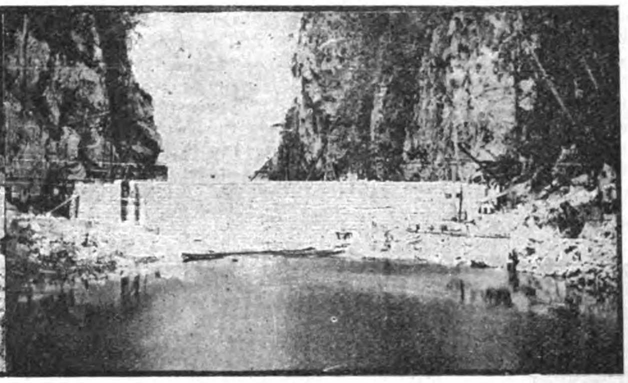
powers, purely perfunctory expressions; indeed, mention of the Portsmouth treaty in this connection causes diplomats in Peking and Tokyo to smile and make allusions to "amateur diplomacy." In respect to the railway negotiations a deadlock has been reached, with the next move up to the United States. The wall which Japanese diplomacy began to build around the Taft policy in China eighteen months ago—of which the Manchurian agreements, the Ito-Kokovsoff meeting, the Crane incident and the recall and resignation of Consul Cloud were passing evidences—has been completed, and must be breached before our government can proceed. China is helpless. She has had ample experience of what Russia and Japan will do to enforce their policies in Asia, and she is very uncertain about how far the United States will go to promote hers. War can be averted; but for this we must put dependence in a counter-play of opposing selfish interests rather than in just principles and moral suasion. This is an ugly fact, but it should be squarely recognized.

It often is said that there can be no peace without justice. There can be no secure peace in the Far East without justice to China.

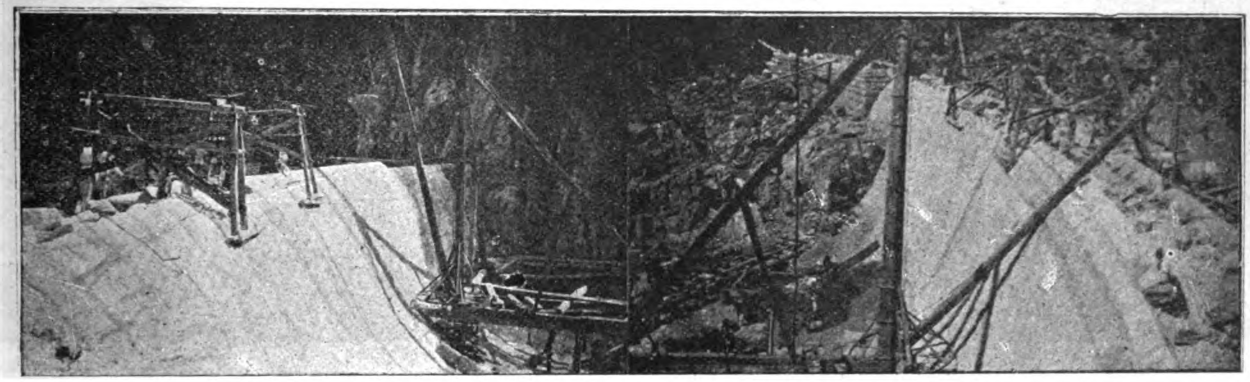
From the distributing reservoir the water is conducted to the old Deposito through a continuation of the 42-inch steel-riveted pipe. Connection is made with the old Deposito, which is kept filled with water as an additional storage supply in case of necessity. In consequence, there is at all times some 68,000,000 gallons of water available for city consumption. From the Deposito the distribution system proper begins. All pipes are of cast iron ranging in size from 42 inches to 4 inches in internal diameter. All parts of the city will be supplied. When the pipes are installed the system will afford a minimum pressure of 20 pounds at the street level in the most distant parts of the



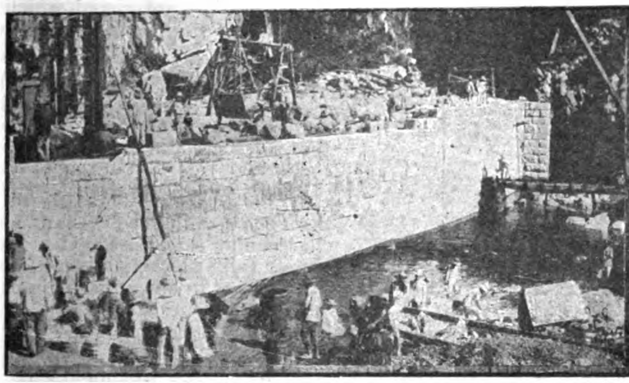
CURVE ON WHICH DAM IS BUILT.



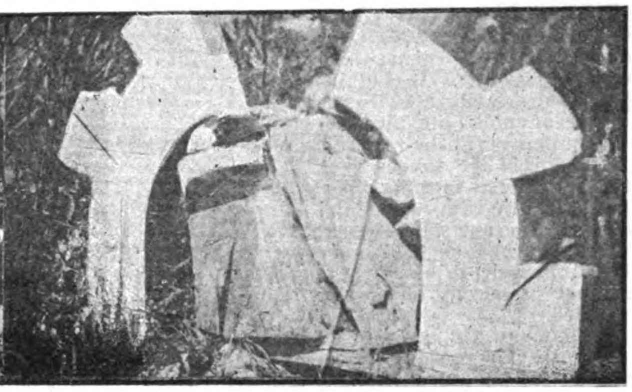
GENERAL VIEW LOOKING DOWN STREAM. DURING CONSTRUCTION.



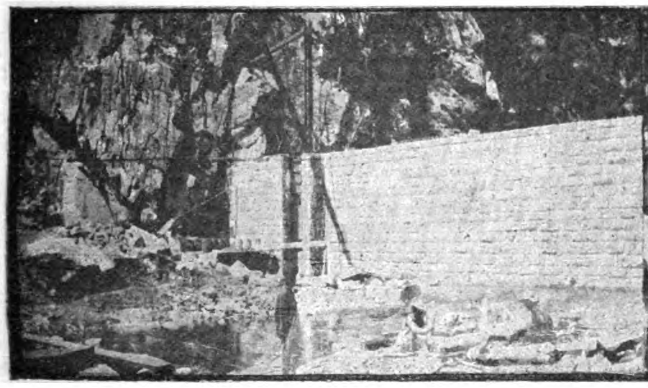
VIEW OF SPILLWAY DURING CONSTRUCTION SHOWING METHOD OF PLACING CUT STONE FACING



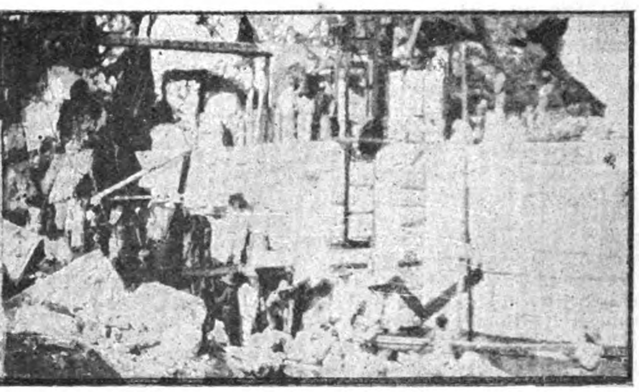
GENERAL VIEW DURING CONSTRUCTION SHOWING 5′×5′ SLUICEWAY ON EXTREME RIGHT



SAMPLE OF CUT STONE ARCHES OVER DOOR IN GATE HOUSE.



VIEW OF INTAKE SHOWING TWO DIFFERENT ELEVATIONS AT WHICH WATER MAY BE DRAWN OFF.

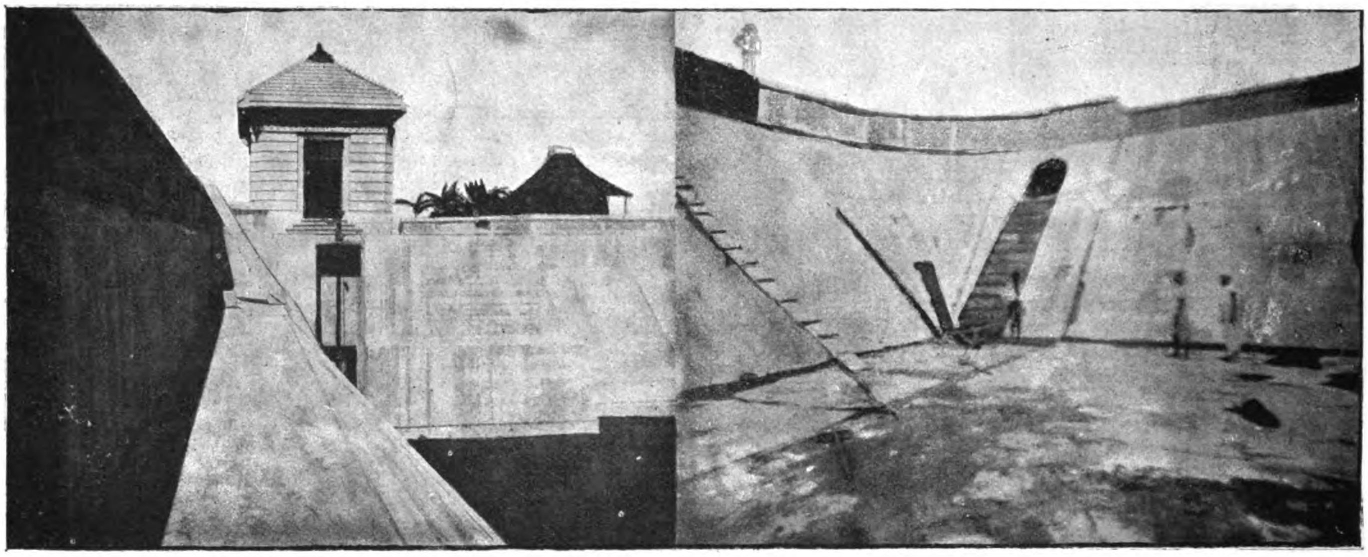


VIEW SHOWING STEEL FRAME WORK FOR OPERATING GATES AT INTAKE AND FOR REVOLVING SCREEN TO REMOVE WASTE, FISH, ETC.

city under maximum consumption. In the design full use was made of the old distributing pipes, but these have been augmented and replaced as a careful study of the conditions showed necessary. The new gravity water supply will furnish 22,500,000 gallons of water daily to the city, sufficient for practically double the present population.

Because of the difficulties attendant upon the construction of the dam, and by reason of the outbreak of cholera in the fall of 1908 as well as for economy, a temporary in take was built above the dam and the use of the new water supply inaugurated on November 12, 1908. Since that date there has been no interruption of reservoir is in service and the water drawn from the depth above mentioned, at which depth our observations indicate amoeba will be absent and the evil effects of shallow flowage be eliminated. It should be noticed, however, that in planning the gravity supply, provision was made for the purification plant. The necessary head for slow sand filters is arranged for, the site selected and should experience show it to be necessary, the plant may be installed without loss or damage to any of the works constructed. Drawings and estimates are already prepared for covering the present reservoir, although since, as stated above, the water bacteriologically is unobjectionable, I do not consider that the reservoir needs to be covered.

My own recommendation, in case purification is found essential, is that three sand filters be installed, each of three quarters of an acre in area. Dosing the water with hypochlorite of lime and alum will allow these filters to work at the rate of 10,000,000 gallons per day per acre with an effluent practically pure. The location for these filters is just beyond the new reservoir, and they can be installed for not to exceed half million pesos. This question should, however, be left in abeyance until the new system has completed service during the dry season under favorable conditions.



VIEW OF GATE HOUSE AND INTAKE AT SAN JUAN RESERVOIR.

the new supply. This intake, although it has given good service, is not entirely satisfactory as the water is taken from a pool of the river itself, and is subject to all of the objections which pertain to shallow flowage water. It contains organic matter such as algae and water mosses as well as certain forms of animal life, tiny fish, or fish eggs, and once received in the reservoir these propagate. In spite of the screens some of this objectionable matter gets into the pipes, and there have been difficulty with meters and complaints from water consumers. However, as soon as the water is drawn from the storage reservoir and taken from a depth of 25 or 30 feet, it is believed that practically all of this trouble will be avoided.

This, however, brings up the question of ultimate purification. Mr. Fitzgerald, Consulting Engineer, recommended a purification plant to be installed as an adjunct to the water supply, but, after considering all the data presented, he agreed with my own recommendation that this should be deferred until a satisfactory method of removing amoeba from the water had been discovered. Practically all surface waters in the Philippines contain amoeba, and the long series of experiments carried out under my direction proves conclusively that slow sand filtration will not remove the amoeba. The bacterial count of the raw water supplied by the new system is low, and the water itself from that standpoint is satisfactory. The watershed itself is practically free from human inhabitants and is, in consequence, uncontaminated. Any method of purification needs, therefore, to remove amoeba before it can be considered entirely satisfactory. Sanitary science in the treatment and purification of water is advancing with rapid strides, but so far only by chemical treatment or ozone can the amoeba be removed. Copper sulphate has been tried, but not with entire success. At the present time hypochlorite of lime seems to promise excellent results. Ozone treatment is too expensive.

I recommend, therefore, that no action towards purification be taken until the storage

INTAKE SHOWING DIFFERENT ELEVATION AT WHICH WATER MAY BE DRAWN. PLACING THE KEYSTONE ON SPILLWAY.

In the operation of the new system the following suggestions are offered, which must be followed if satisfactory service is to be rendered.

Whenever because of rains and the consequent rise of the river the turbidity becomes objectionable, the gates at the dam should be closed and the water for the city supply drawn from the reservoir during the continuance of this turbidity.

While the gates are closed the sluiceway through the dam as well as the 36-inch discharge pipe should be opened; and they should remain fully or partially open during the rainy season so as to allow the sediment to be flushed out.

Every year about the close of the rainy season when the stage of the river is about six feet, the water should be drawn down and workmen employed to sluice out the sand, gravel, etc., which will most certainly be deposited as the result of every flood. During the sluicing operations the gates to the city should be closed. In this way and at small expense the storage reservoir may be conserved and cleaned, while if it is neglected its capacity will be reduced and its efficiency diminished.

The pipe line should be emptied at least once a year and examined throughout. This should be done in sections so far as possible so as not to change interrupting the city supply. In emptying and filling the pipe special care must be taken to see that the air valves work properly.

At various points on the line the pipe is carried over streams or bridges, and the pipe must be examined at those points frequently to prevent oxidation where exposed to the air or only slightly covered with earth.

From time to time an examination of the pipes should be made in the rice fields near San Mateo, for it is possible that the chemicals contained in the earth may destroy the coating; and since the life of steel pipe is determined by the existence of the coating, damage thereto must be guarded against.

The tunnel and conduit need no care except a possible occasional cleaning. This can easily be done by laborers using ordinary brooms or stiff brushes, though a rotary machine patterned after that in use in Boston may be used to advantage.

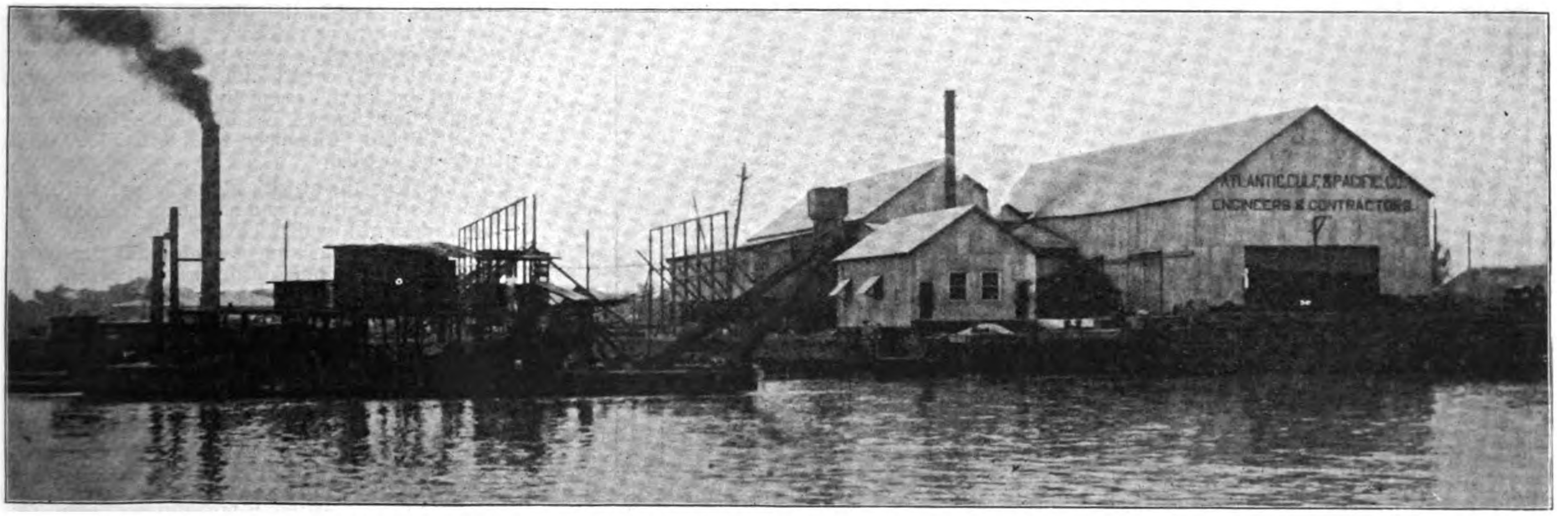
The reservoir itself should be cleaned at least once a year and the time selected when the water at the dam is clear and abundant. It is probable that the beginning of the rainy season in June is the best time.

All air valves and blow-offs should be tested from time to time, and the blow-offs especially should be opened for a few minutes and any sediment blown out at frequent intervals.

*Sewer System.*—The sewer system comprises more than fifty-two miles of main sewer and laterals ranging in size from 8 inches to 72 inches in diameter. The principle governing the design was that all sewers should start at their upper ends as near the surface of the ground as was possible, that the grade necessary for flow should be obtained by deepening the trenches, and that sewer pumping stations should be installed at intervals determined by the economical limit of excavated depth. This design, therefore, called for five substations in which the sewage was lifted from a lower to a higher level, and one main station at the foot of Calle Azcarraga, in which all sewage of the city is collected and from there pumped out to sea to such a distance as to avoid any possibility of offense.

All sewers 24 inches or less in diameter are constructed of vitrified pipe, and all above 24 inches in diameter are of concrete. It was intended to line the inverts of the larger sewers with brick, but because of the unsatisfactory quality obtainable concrete was substituted. This substitution is entirely satisfactory and has resulted in considerable economy. I need hardly refer to the difficulties of construction encountered. The narrow streets and the existence of ground water in practically every trench, as well as the beds of quicksand encountered in various places, made the construction difficult and expensive. There was also grave danger of disturbing the foundations of buildings; and the completion of this work without an accident of importance is cause for congratulation. Two instances are particularly noticeable: On Calle Cabildo, in the Walled City, it was necessary to go far below the foundations of the Cathedral, and the timbering and bracing of this trench involved the support of the solid stone walls thereof, fifty feet in height. No sign of crack in this wall developed as a result of this operation. In Calle Tanduay a bed of quicksand was encountered which was well nigh impassable. The contractors worked seven months to install 140 feet of pipe. In spite of all these difficulties, I desire particularly to call attention to the tightness of the sewer system. The actual infiltration of ground waters

SITE OF THE NEW DAM AT MONTALBON BEFORE WORK BEGAN.



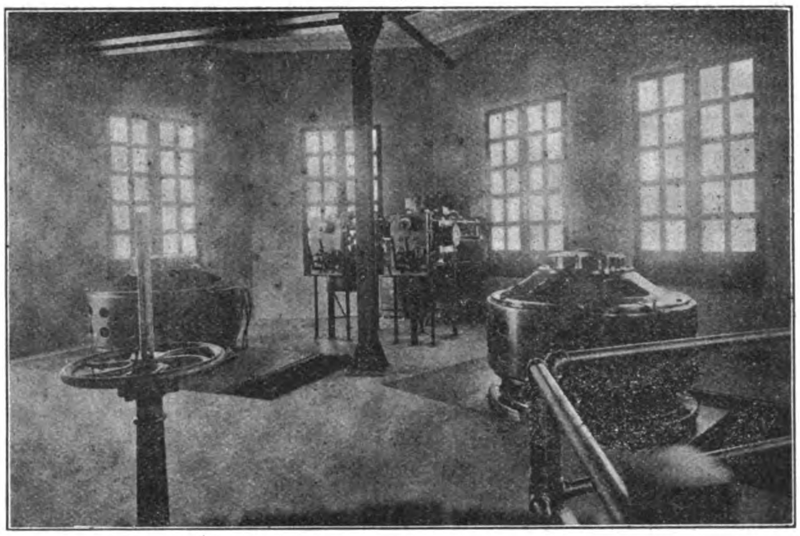

STEEL WORKS OF THE ATLANTIC, GULF AND PACIFIC COMPANY ON THE PASIG RIVER AT MANILA.

into the entire sewer system is trifling and does not amount to ten per cent of what reasonably might have been expected. The whole district of Sampaloc was absolutely tight.

Tanduay, on account of the quicksand encountered, gave some trouble; and because of settlement shortly after the completion of the system, certain of the joints were opened and the leakage became considerable. These leaks were, however, caulked on the inside and made tight at small expense, which was borne by the contractors.

the sewage in the collecting chamber has been discharged, the float mechanism also shuts off the power. The smallest substation is at Paco and the largest at Santa Cruz. It should be noticed that sewage from Paco is pumped four times before it is finally disposed of.

All of the substations have operated satisfactorily since installation, but the main station gave considerable trouble for several months because it was not properly balanced. This balance can only be determined by observation during operation and unfortunately the contractor and the Chief Engineer left Manila shortly after completing the installation. No attention was paid to balancing the pumps in their absence, and the impression was allowed to obtain that the pumps themselves were defective. This impression gained such currency that proposals were invited for so-called repairs, and a bid involving the expenditure of more than eight thousand pesos was received. Fortunately no contract was awarded nor any work done. Immediately after my return the pumps were balanced and properly lubricated at an expenditure of less than four hundred pesos, which expense was of course borne by the contractor. Not the least of the effects of this balancing of the pumps was the notable drop in the consumption of electric current. All pumps and motors are now operating perfectly and the entire system is a notable example of excellent construction.



INTERIOR MAIN PUMPING STATION, MANILA SEWAGE SYSTEM.—ELECTRICAL INSTALLATION FURNISHED BY GENERAL ELECTRIC CO. AND INSTALLED BY FRANK L. STRONG.

The machinery for the pumping stations was furnished and installed by Frank L. Strong, contractor, while the buildings therefor were constructed by Atlantic, Gulf & Pacific Company. All pumps are centrifugal and driven by electric motors. The main station is direct connected; that is, the shaft of motor and pump is continuous, while the substations are geared since the speed of the motors is far in excess of the speed of the pumps. The gears are of rawhide, designed to prevent noise and vibration. All pumps are horizontal, with vertical shafts, and so arranged as to be self-priming. Each substation is equipped with a float operating mechanism, so arranged that when sewage in the collecting chambers rises to a certain point the pumps will start automatically. When

Some difficulty has occurred at the main station and the Malate substation because of offensive odors escaping from the sewers. This is caused by the disposal stations of the pail system placed in the immediate neighborhood. The concentrated mass of sewage from the pails injected into the sewers without proper dilution is not only difficult for the pumps to handle, but by its mere presence generates a considerable amount of offensive gases. Under certain conditions of wind and atmosphere these odors have been noticeable in the surrounding neighborhood, and have at times constituted a veritable nuisance. A ventilating stack has been placed on the Malate station, and it is believed that there will be no further cause of complaint. Should there be further complaint, however, it may be rectified by increasing the length of the stack. Charcoal fires have been used in the ventilators; for the most part, with entire success. Though absolute adjustment may take some little time, I wish to emphasize the fact that there should be nothing objectionable or offensive about the pumping stations.

In May, 1909, the Department was authorized by the Municipal Board to proceed with the operation of the sewer system, including installation of street connections. At the present time some seven hundred connections have been made, and the applications are averaging sixty or more per month. The services of the sanity barge PLUTO have been dispensed with, all pails are emptied directly into the sewer system. Sewage and ground water combined amount to less than 2,000,000 gallons in 24 hours, and since the main pumps have a capacity of approximately 1,000,000 gallons per hour, the time necessary for operation is less than two hours daily. It might be supposed then that the pumps should have been designed for much less capacity, and this is partially true. The reason, however, has already been stated in the remarkable water-tight construction and the consequent small amount of ground water infiltration. Furthermore, there should be more than six thousand sewer connections in the city at present.

Certain of the districts of the city are yet to be supplied with a sewer system. The most important ones are the new filled area of harbor work and the districts of Pandacan and Santa Ana. None of these districts can be taken care of without installing additional pumping stations, and since the cost of these and the operating expense thereof are out of proportion to the benefits obtainable, I strongly recommend that all sewage in these districts be discharged for the present into the stormwater drains. The requirements of the Board of Health are such that this will involve the use of septic vaults, but these may be of simple construction and of relatively small expense. Whenever the development of these districts reaches a point where this proposed method is unsatisfactory, it will be necessary to install a sanitary sewer system and provide pumping stations. Within the districts already taken care of, numerous extensions from time to time will be necessary to keep pace with the development of city construction. These extensions should be taken care of by the office of Water Supply and Sewers, by direction of the Municipal Board, whenever it is convinced that they are needed.

The Department was also charged with the care of storm water, and a system of drains has been designed which covers the entire city. This involved the fixing of grades and the determination of the limits of drainage districts. In this design all existing esteros, the river and the bay were used. There still remains a large amount of work to be done in this direction before the city can be considered sanitary. Manila is low and flat. Many sections must be filled to bring the ground above the level of high tide. A necessary adjunct of this is the improvement of the esteros, and it is to be hoped that funds will be obtained shortly to undertake this work. Some years ago the undersigned prepared a preliminary plan for this work and estimated the cost thereof.

SANTA CRUZ AND ERMITA PUMPING STATIONS.

*Financial.*—The funds for the construction of the sewer and water system were obtained by the sale of bonds of the City of Manila, issued by authority of Act No. 1323 of the Philippine Commission, to the amount of $4,000,000.00 gold. Their sale brought a premium of $235,-484.91 in addition to their face value. The actual cost of both system has been considerable less than the estimates, and there still remains a balance of $250,000.00 unexpended, and against which no obligations exist.

Certain items not contemplated increased the cost of the works, the principal one being customs duties. Under a ruling of the Insular Collector, approved by the then Governor-General, customs duties on all materials were collected unless the City of Manila was the direct importer. Under this ruling all imported materials for the sewer and water furnished under contracts with the City of Manila paid duty. I am still of opinion that this ruling defeated the intention of the Congress of the United States, and I believe that all sums so collected should be refunded to the City of Manila. The correspondence files show several letters on this subject, and I earnestly recommend that an effort be made to obtain this refund.

Under a ruling of the Insular Treasurer a considerable sum has been paid for exchange on money transmitted from New York to Manila, and also on money from Manila to New York. Since the funds secured by the sale of bonds were deposited in New York, it would seem that checks against these funds would at least have saved the exchange rate for transmitting the money to and from Manila on payments for interest accruing on the bonds. These bonds are five per cent ten-thirties, and the annual interest amounts to ₱400,000.00.

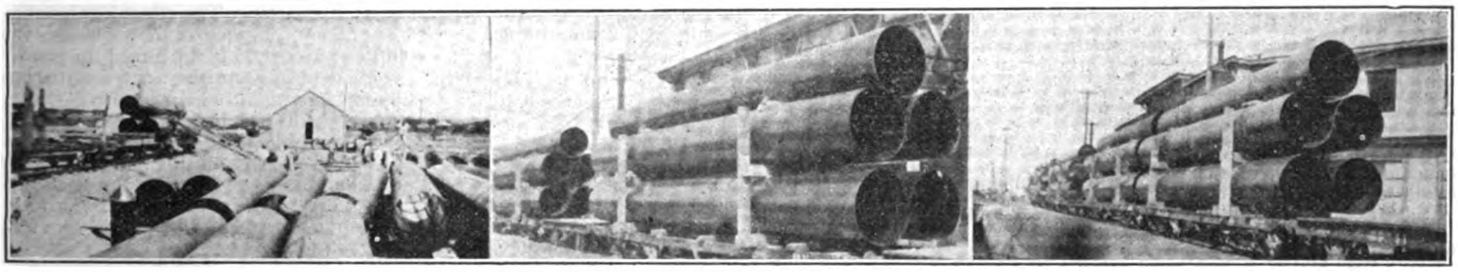
A sinking fund of $77,480.00 annually is also provided. The approximate operating expense of both sewer and water systems is $32,500.00 per annum, making a total annual charge of fixed and operating expenses of $277,480.00. The receipts from water supply for the present year will be approximately ₱360,000.00 and the difference must be made up from general taxation. As the connections with the sewer system increase and the use of water becomes more general, it is probable that the receipts will be very largely increased, and perhaps doubled. Manila's daily consumption of water amounts to less than 9,000,000 gallons at present. A city of its size should be using 15,000,-000 gallons. With no change in the rates, this consumption would pay all expenses and retire the bonds at their maturity. The unexpended balance from the sale of the bonds may be used for the sinking fund or for further extensions of water and sewer systems and stormwater drains, as the Municipal Board decides.

*Personnel.*—To the personnel of my Department I wish to express my appreciation of and thanks for their services. The determination of the sizes and locations of the sewer pipes by O. L. Ingalls, Principal Assistant Engineer, Sewer System, is deserving of great credit, while to Mr. C. W. Hubbell, Principal Assistant Engineer, Water Supply, the success of the water system is largely due. Mr. A. Gideon has been in charge of the stormwater drains and the distribution system, and his work has at all times been of high order. Without exception, the work of the Assistant Engineers has been markedly efficient.

I also wish to express my appreciation of the work of the contractors. In the face of many difficulties and, in general, with an unskilled labor they have carried on the work to a successful conclusion. Furthermore, they have at all times met this Department and myself in a spirit of fairness and with an evident desire to accomplish satisfactory and permanent construction. It is with pleasure that I pay them this tribute for their efforts.

In conclusion, the City of Manila is now supplied with a sewer and water system, modern, sanitary, and efficient, and of a capacity sufficient for its needs for many years to come.

To the members of the Municipal Board, both past and present, my thanks are due for their assistance, co-operation, and support. It has been a pleasure to be associated with and to serve them.



(1) UNLOADING 42" RIVETED STEEL PIPE AT SAN MATEO FOR MANILA WATERWORKS.—(2) STEEL PIPE LOADED ON MANILA RAILWAY COMPANY'S CARS.—(3) ANOTHER VIEW OF PIPE IN TRANSIT. FABRICATED BY THE ATLANTIC, GULF AND PACIFIC STRUCTURAL STEEL WORKS.

# A NEW TRANSCONTINENTAL RAILWAY

For years the Pacific Northwest called for transportation facilities adequate to meet its constantly expanding needs. Each harvest season the transportation problem faced the lumberman and the farmer, the merchant and the consumer, while the occasional and unavoidable congestion of traffic on the other lines delayed commerce, impeded business, and deprived the Pacific Northwest of Dollars it had earned.

All the continent needed the products of Oregon, Washington, Idaho and their neighbors, but transportation did not keep pace with development. Well might the empire of the Northwest call for more rails and for more cars.

Answering this cry came the Chicago Milwaukee & St. Paul Railway. With a speed unique in engineering annals it extended its line over broad plains and jagged mountain ranges, through tunnels and across great rivers, until in three years it reaches its goal, with almost fifteen hundred miles of new line, and the expenditure of close to $90,000,000. Fourth among the great transcontinental railways to penetrate the American Northwest, the Milwaukee opens a new era in the linking of the East to the Pacific Coast.

But while the completion of the three earlier arrivals was marked with imposing ceremonies that were watched by all America, the new line saw its last rail laid on March 29, without any golden spike or without any brass band.

A. J. Earling president of the Chicago, Milwaukee and St. Paul Railway system, had long been looking into the Pacific Northwest, for the marvelous development of the region was the wonder of the entire country. Knowledge of world commerce, too, made clear the necessity for the Milwaukee's great network of rails, spreading over a dozen or more Middle States, to have an outlet upon the Pacific. A decade had seen the trade across the largest ocean grow with leaps, while the same ten years had witnessed the production of $1,000,000,000 in Klondike and Alaskan gold, and the development of a great coastwise business. With its connections east of Chicago, and a Pacific Coast extension, the Milwaukee would virtually span the continent.

While the Milwaukee system had been circumscribed through its lack of a gateway to the Pacific Ocean, other lines were developing great trade through Puget Sound, Portland, and San Francisco. This trade promised to increase in volume with each succeeding year. Mr. Earling had prevailed upon his somewhat skeptical directors that the extension to the Pacific Coast was not only justified by the immediate business such an extension would gain, but that strategically the Milwaukee could place itself in an impregnable position among railways. He showed that the territory which the Milwaukee's proposed line would serve produces more than a third of a billion dollars annually from the soil, the forest and the sea, and he outlined branch lines as feeders for the main line that would bring the richest proportions of this rich territory with easy access.

He dwelt with especial stress upon the great timber wealth of the Northwest. "It's the last great storehouse of the continent's trees," insisted the president.

"If we can be assured of four trainloads of timber products a day from the forests of Washington, Oregon, Idaho, and Montana, that business will alone pay the operating expenses of our Pacific Coast Branch,"—and that was before the railways were allowed an advance in lumber rates by the Interstate Commerce Commission.

Washington is the greatest lumber producing state in the Union, while Oregon and Idaho combined equal Washington's output. These three states have an annual timber production of more than $150,000,000, while an army of 200,000 men is dependent upon this greatest Northwest resource. Annually Washington sends out of the State 110,000 carloads of lumber and shingles, while the water trade is of equal proportions.

Before construction of the 1,400 odd miles was authorized, Milwaukee engineers had tramped over and mapped every foot of the territory through which such a line would pass, and had selected a route, remarkable for directness, from Mobridge, S. D., the furthest western point in the old system, to Puget Sound. Estimates made on the cost were so accurate that later there was no call for deficiency appropriations; in fact, actual construction served to reduce, slightly, the original figures.

With accumulated experience in transcontinental-railway building, the Milwaukee was enabled to work out its problems in engineering with greater facility than its predecessors, while the advance in mechanical appliances served to condense into thirty-six months a task that a few years before would have required the greater part of a decade. Also the officials of the Chicago, Milwaukee & St. Paul financed their enterprise at exactly the right time, for their work of supplying the millions needed for the undertaking was not much more than completed when the panic of 1907 shook the confidence in railway securities and delayed many enterprises that otherwise would have been carried to early completion.

The Magnitude of the task that was accomplished in these three years is shown by the final figures. More earth was excavated, in preparing for the road-bed, than the United States Government moved in the Panama Canal zones in the years 1904, 1905, 1906, 1907 and 1908—a total of 60,000,000 cubic yards. In those years the aggregate excavation from the canal was about 55,000,000 cubic yards. Without stir or excitement this American railway company

moved in three years more than one-third as much earth as will be required in the grand total at Panama, including the locks and basis on earth side of the entrance.

Twenty miles of bridges have been built. The bridge accross the Missouri River cost close to $2,000,000, while that across the Columbia cost $1,000,000. Tunnels exceeding a third of a million cubic yards were driven. Two hundred thousand tons of eight-five-pound steel rails were laid.

Mobridge, from which the extension started, is about midway between the eastern and the western boundary of South Dakota. The first big task for the engineering department was the crossing of the Missouri. Approaches to this structure, built of solid steel and concrete, were particularly long and costly, but the spans were not as long as those later put in place across the Columbia. Each bridge affords trains a passage about fifty feet above the river's high-water mark.

The Milwaukee has sought to secure low grades, and for the most part has succeeded.

When it comes to operating the trains the "ruling grade" on any one division is the most important factor. The ruling grade is the maximum, in ordinary parlance, but it means much; if there is a stretch of say half a mile with a two per cent grade (two feet upward in every hundred) that half-mile determines the size of the train, even though the remaining 200 miles of the division are absolutely level. The ruling grade is like the weakest link in a chain. Curvature is another problem in economical operation, for abrupt curves waste the engine's power just as grades too. The Milwaukee spared no expense to make the new line as straight as possible, considering the mountainous nature of much of the territory through which it passed.

Until the line begins the ascent of the great continental divide in Montana, the grade is slight indeed, and going up the Rockies the ruling figure is 1.66 per cent, comparatively low. From Butte, into the Bitter Root Mountains, following the Dear Lodge, Hell Gate and Missoula Rivers, again there is little incline, while the Bitter Root range is negotiated at 1.7 as a maximum, the same figure reaches in the ascent of the Cascades while the downward grade on the western slope of the Cascades is only eight-tenths of one per cent.

The Milwaukee performs a somewhat unusual feat among transcontinental railways, in crossing and recrossing one of its rivals. Near Terry, Montana, it goes to the northward of the Northern Pacific, making the crossing on an overhead bridge. At Piedmont, just east of Butte, it passes to the southward again.

While the Milwaukee parallels the Northern Pacific in many places, the vast extent of the country through which it passes gives it a territory all of its own, development of which is certain to follow even more rapidly than that opened by the older lines, because of the constantly increasing stream of immigration passing into the broad areas of the Northwest.

St. Paul Pass, in the Bitter Root range, is the highest altitude which Milwaukee trains attain. This pass had attracted little attention from railroad builders before the arrival of the Earling road, but a gradual ascent was found by the engineers, and the backbone of the continent is crossed at 4,160 feet, in the longest tunnel that the new line has opened. It is 8,750 feet in length. Through the beautiful Coeur d'Alene district in Northern Idaho the line passes, and down across the fertile plains of Eastern Washington to Beverly, where the second big bridge spans the Columbia.

In crossing the Cascades the Milwaukee found Snoqualmie Pass so easy to negotiate that a construction of a costly tunnel was unnecessary at first.

"We will be able to reduce our altitude in the Cascade by some 500 feet, with a tunnel underneath Snoqualmie Pass," said Chief Engineer E. J. Pearson, of the Chicago, Milwaukee & Puget Sound, as the extension was called upon its completion. "No determination has yet been reached regarding this tunnel, and our grades now are excellent, but this Cascade tunnel will be driven in time, for the economy in fuel and powder will be great. It takes money to raise trains 500 feet in the air, and drop them back again. The tunnel as suggested would approximate three miles in length, and would require as long to drill as it has taken to build the Pacific Coast line, for, working from both ends, progress of a mile a year is considered good.

"Our St. Paul Pass tunnel has an easy grade, rising to a summit inside the mountain, but this slope is so slight that we can operate ordinary locomotives where a steeper grade would require electricity. A puffing locomotive fills the tunnels with such a dense cloud of smoke that time must be allowed between trains for the smoke to clear."

Coming down the western slope of the Cascade the Puget Sound line made what is believed to be the deepest fill ever made in original railway construction. Topographer's Gulch was as deep as a twenty-story building. It required 630,000 cubic yards of earth to fill it from side to side, a distance of 850 feet. The hydraulic plant used to sluice the earth required the expenditure of $60,000 before a cubic yard was moved.

Construction of the extension was carried forward in five sections. The eastern half of the work was supervised from Chicago, but from Butte westward the work was under the direction of H. R. Williams, who was made president of the Chicago, Milwaukee and Puget Sound as soon as the corporation was organized.

President Earling and a party of other officials of the system, including Mr. Williams, made the first trip of inspection over the new line, and expressed themselves as well pleased with its condition, but they deemed it best to delay the inauguration of through passenger could have his way regarding the equipment. The original order was doubled, and then doubled again, and to-day the business confronting the road will make good use of all the cars and engines available.

The Milwaukee has already constructed a line from Seattle, Tacoma, which is to be used jointly with the Union Pacific, and the Union Pacific this year will complete its branch line to Grays Harbor, over which the Milwaukee will operate its trains. A shrewd stroke on the part of the Milwaukee was the acquisition of the Tacoma & Eastern, a road originally built for logging purposes southeast from Tacoma and later developed into a good property with perhaps sixty miles of track. This road, still operated independently, gives to the Milwaukee access to one of the finest timber belts in the Northwest, while the Milwaukee's main line through Snoqualmie Pass opens another fine district, and plans are developing for the construction of a line northward from Grays Harbor into the virgin Olympic Peninsula, containing timber worth scores of millions of dollars.

Whether the Milwaukee will build its own line to Portland, or make a traffic agreement with the Northern and Union Pacific for use of their tracks and bridge across the Columbia, remains to be seen, but it is the announced intention of the new road to reach all the important centers of the upper Pacific Coast.

"We have been so busy completing the line to the Coast, and preparing it for traffic," Mr. Williams said recently, "that we have not had time to complete details of other extensions. Our plans are announced for entrance into Spokane, and a branch line is being built into the Cascade timber, while work is progressing at a most satisfactory rate on the Grays Harbor line, which the Union Pacific is building for our joint use. There is business enough for all the roads now entering the Northwest, and we believe that we are going to get our share. We have made traffic arrangements with the Osaka Shosen Kaisha Japanese Steamship Company to handle our business with the Orient. Six steamships are to be constructed for this line, two of which, the *Tacoma Maru* and the *Seattle Maru*, are in the service, and the third, the *Chicago Maru*, is to follow soon. The fleet is to be increased as rapidly as the traffic justifies."

It has been reported from the first that the Milwaukee would make use of the abundant waterpower along its line, for the operation of its trains, at least through the mountain divisions. Eventually it is more than likely that electricity will be the motive force for many hundreds of miles, but these plans are not matured, according to Mr. Williams.

"We are carefully investigating this feature, mapping the water courses, and measuring the available power, but further than that we have not gone," said the president of the western line. "It is true, beyond a doubt, that much water power is going to waste in the Western streams, and in time it will be utilized."

The policy of the Milwaukee, through a land department, has been to acquire large holdings of Western timber lands. Timber lands are looked upon by investors as better than Government Bonds. While the extent of the holdings of the new line have never been made public, it is stated that not less than $10,000,000 has been invested in timber in the vicinity of St. Maries, Idaho; in Snoqualmie Pass; along the Tacoma and Eastern; in the Olympic Peninsula, and in other districts.

To all shippers, but especially to the lumbermen of the Northwest, the coming of the Milwaukee was looked forward to as a boon, and the course of the new line, so far, has justified such optimism. Eagerly the lumber industry awaited the rate schedules which the new road would promulgate, and it has found that, after the great struggle on the rates between the industry and the old lines, the Milwaukee had made reductions without precipitating a rate war that might have proved disastrous. The Milwaukee declined in the beginning to enter a rate agreement with the other lines, stating it preferred to be independent. On Puget Sound the Milwaukee has instituted a car-ferry system, transferring loaded cars from the mills of the Puget Sound district by water to the Seattle or Tacoma terminals. It is probable that passenger traffic out of Seattle is to be handled through the Union Pacific Station, which is to stand opposite Fourth Avenue from the Hill station, and which is under construction at a cost of $500,000.

The growth of the Chicago, Milwaukee & St. Paul system in the last few years has caused remark in the railway world. The beginnings of the system go back to the Minnesota Central, in 1865, completed to St. Paul two years later. In 1884 its mileage reached extension the total is over 9,000 miles.

The Chicago, Milwaukee & St. Paul Railway is a strong booster for the development of the territory it serves. It has helped to spread broadcast over the country a knowledge of the resources and opportunities offered to settlers and capitalists by the Northwest, especially Montana. Farm papers, magazines, daily and weekly newspapers everywhere have carried advertising of the St. Paul extension and of the regions it crosses. The effect has been marked in the great number of new people that are coming to settle along the line of the road. New towns, new enterprises, new institutions are daily springing into being, where three years ago was nothing but the stock range. The publicity campaign of the St. Paul has had the effect, also, of stimulating the other roads to follow the same system, with the result that the whole Northwest is profiting by these great agents of publicity and of public service.

## RUBBER FROM BANANA JUICE

Extensive experiments are being made in regard to the extraction of rubber from the juice of the banana plant. The original investigator was Mr. George C. Benson, and the following excerpt on the subject is taken from *The Georgetown Daily Chronicle*, British Guina:

"About two years ago, whilst experimenting with some banana juice, so as to find out how best to mordant it, a thick and pliable rubber was found to attach itself to the sides of the enamel dish which held the juice. The rubber was ultimately sent to England and to America, and it was found to be what is known as a synthetic rubber, and when compounded with other rubbers it appeared to have a distinct market value, by increasing both the weight and the value of the rubbers with which it was compounded. This fact is about to be put to the severest test, and numerous samples are to be sent to the best judges both in Europe and America."

# CHINA'S ARMY AND NAVY

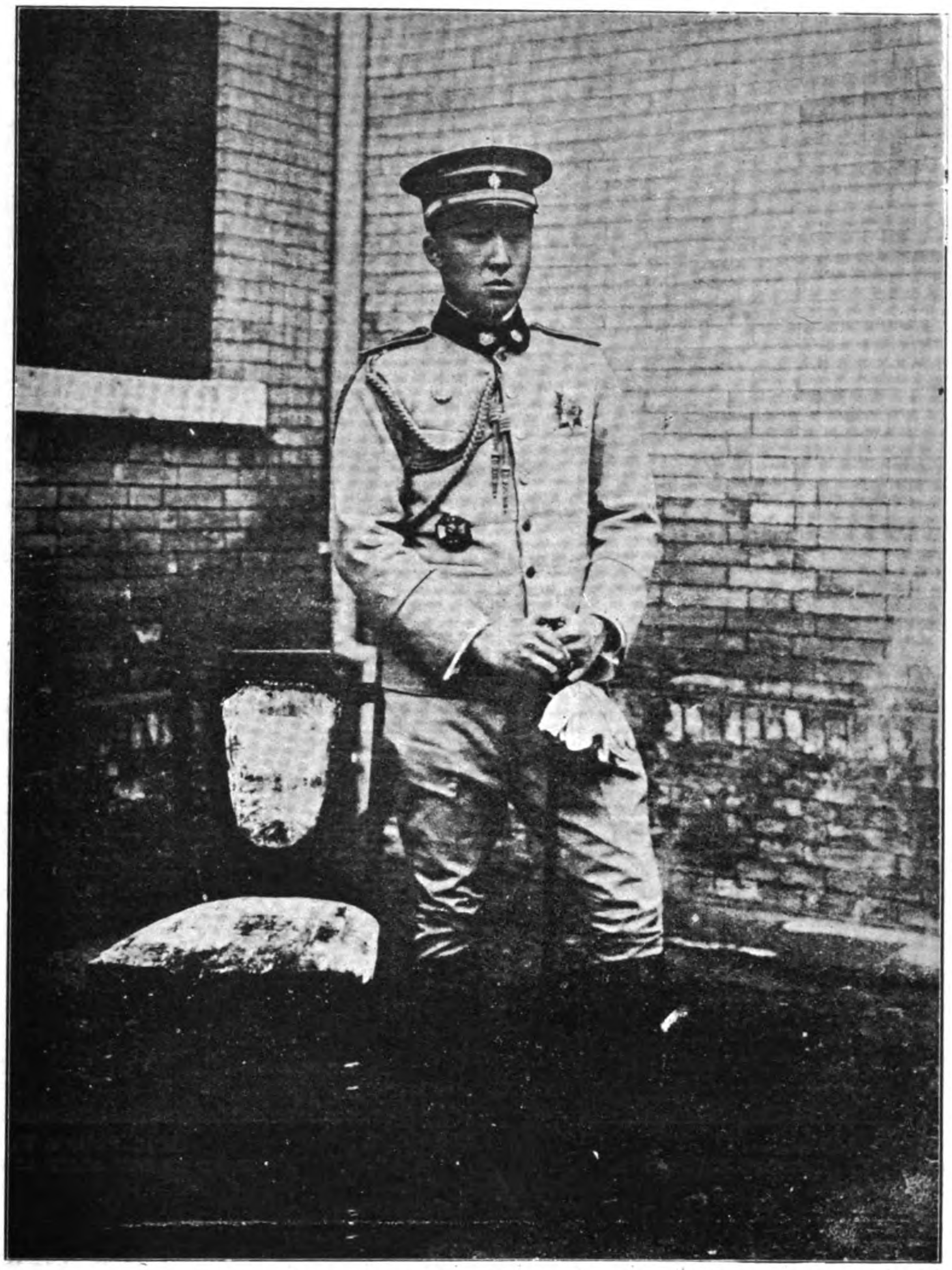
The appointment of Prince Tsai Tao, the brother of the Prince Regent of China, as Special Commissioner for the Investigation of Military Affairs with instructions to visit Japan, America, England, France, Germany, Italy and Russia, for the purpose of studying the military systems of the different countries, with a view to utilizing this knowledge in the proposed reorganization of the Chinese military organization, may be taken as evidence of the seriousness of Imperial Government in its announced program of developing its military strength to a degree in keeping with the modern requirements of the great empire. The selection of a member of the Imperial Family for this mission indicates the importance attached to the mission. Prince Tsai Tao is a military man of brilliant attainments and holds the position of High Commissioner of the Imperial Guards as well as that of Chief of the General Staff.

The prince and suite started in the latter part of March on this world tour making Japan his first objective and arrived at Shimonoseki March 23. He remained in Japan until April 6th, when he sailed for the United States to continue to Europe. In his suite are Lieut.-General Lord Li Ching-mai, the youngest son of the late Marquis Li Hung-chang, Ha Hanchang, chief of General Staff; General Liang Pi; Hsu- Chi-chuan, chief of horse breeding dept.; Wen Hwa, officer of general staff; Yao Pao-lai, of general staff; Pau Chi-chun, navy general staff; Chen Chin-tung, Lui En-yuan, of general staff of the army; Tien Shen-chung, Imperial Guard; Cheng Shao-yuan, chief secy. army general staff; Tuag Chang, director Nobles school; Wu Wei-ya, doctor of Imperial guard; Tang Pao-chao, attaché general staff, French interpreter; Cheng Ching-pan, attaché general staff, German interpreter; Tan Hsui-kuai, of the navy.

He was warmly welcomed by the Japanese and given every facility to inspect the modern military organization of that country. Reports from the United States indicate that he was warmly greeted at all the cities en route and news from Europe point to warm receptions at the different capitals.

In a speech at the dinner given in honor of His Royal Highness, Prince Tsai Tao, by the American Asiatic Association at Delmonico's, New York City, May 3rd, which we reproduce from the *Journal*, Brigadier General Ha Han Chang referred to the object of the military mission and included the latest information with regard to the present status of the Chinese military organization. In response to the toast "The National Army of China," Genera Ha Han Chang said:

"I consider myself fortunate that I have this opportunity as a member of His Imperial Highness' staff to visit the great city of New York and to meet the members of the American Asiatic Association who are known to have the closest relation with China. To me has been assigned the honor of responding to the toast of the National Chinese Army. I take great pleasure in giving an outline of the subject as time forbids going into detail.



H. I. H. PRINCE TSAI TAO
IN THE UNIFORM OF LIEUT. GENERAL OF THE IMPERIAL GUARD CORPS

H. E. TIEH LIANG
RECENTLY SUCCEEDED BY GENERAL YIN CHANG AS WAR MINISTER FOR CHINA

H. E. PRINCE YU-LANG
HEAD OF THE ARMY ADVISORY BOARD

"China as a military power dates from the China dynasty which flourished about 3,000 years ago. As every student of Chinese history knows, Chinese civilization reached its height in those days of military glory. About three hundred years ago there was a thorough reorganization of the Chinese army; at that time Peking alone had a garrison of 500,000 troops under different banners; there were, besides, other troops distributed among the provinces in army corps, divisions, brigades, regiments and battalions. These were placed under the command of high officers, who received their orders direct from the commander-in-chief. For a second time China was regarded as a military power.

"During the reigns of Hanghsi and Yung Ching in the seventh century, the Emperor himself used to lead the troops in person, and raised the military ardor of the nation to the highest pitch. With a strong hand the peace of the East was maintained, while Europe was plunged into all the horrors of war. It was found difficult to keep the army in an efficient state during a period of profound peace, and an inefficient army naturally invited political disturbance. I think Napoleon was right when he said something to this effect: 'War is the harbinger of civilization.'

"Now, China again feels the need of putting her army on an efficient basis. With this end in view the late Emperor Kwang-Hsu ordered the reorganization of the War Office, to which were especially attached the general staff of the army and bureau of military training. At the same time it was decided to organize an army of thirty-six divisions, and this work was to be completed in 1912.

"Now the Chinese army consists of eighteen divisions. Each division is composed of two brigades of infantry, each brigade of two regiments, each regiment of three battalions and each battalion of about five hundred men. Each division has also a regiment of cavalry, a corps of artillery with over fifty guns, a corps of engineers and a commissary corps.

(*Continued to page 89.*)

# THE FAR EASTERN REVIEW

**GEO. BRONSON REA, M. E.**

**PUBLISHER**

**WILLIAM CROZIER, Editor.**

**COMMERCE :-: ENGINEERING :-: FINANCE**

**A Monthly Review of Far Eastern Trade, Finance and Engineering, Dedicated to the Industrial Development and Advancement of Trade in the Philippines and Far Eastern Countries**

**PUBLICATION OFFICE:**

**MANILA, PHILIPPINE ISLANDS**

**HEAD OFFICE**

**WHITEAWAY LAIDLAW BUILDING**

**Shanghai**

**UNITED STATES REPRESENTATIVES:**

**J. ROLAND KAY CO.**

**Teutonic Building, Chicago, Ill.**

**GREAT BRITAIN:**

**PROBSTHAIN & CO.**

**14 Bury Street British Museum, London, W. C.**

**SUBSCRIPTION AGENTS:**

| | |
|---|---|
| HONGKONG............... | KELLY & WALSH, LTD. |
| SINGAPORE............... | " " " " |
| YOKOHAMA............... | " " " " |
| SHANGHAI............... | " " " " |
| TIENTSIN............... | TIENTSIN PRESS, LTD. |
| WASHINGTON, D. C..... | BRENTANO'S. |

**SUBSCRIPTION RATES:** Philippines, United States, Canada, and Mexico, $2.50 U. S. C. per year. To all other countries in the Postal Union, $3.00 per year. Single copies 25 cents, U. S. C.

**ADVERTISING RATES** will be mailed on application.

Communications pertaining to the Editorial Department should be addressed to THE EDITOR.

ENTERED AT POST OFFICE, MANILA, P. I., AS SECOND CLASS MATTER.

**MANILA, SHANGHAI, AND YOKOHAMA, AUGUST, 1910**


CONTENTS


| | Page |
|---|---|
| America in China.............................. | 70 |
| Manila Waterworks and Sewer Construction...... | 78 |
| A New Transcontinental Railway................ | 83 |
| China's Army and Navy......................... | 85 |
| American-Japanese Relations................... | 87 |
| The Spirit of Manila.......................... | 87 |
| The Proposed Invariable Calendar.............. | 88 |
| The Russo-Japanese Convention................. | 89 |
| Japanese Delegates in China................... | 89 |
| China's Navy.................................. | 94 |
| New Turret Tool Post.......................... | 96 |
| Remarkable Performance of Induction Motor...... | 97 |
| Extension Kowloon Docks....................... | 97 |
| Large Lumber Cargo for China.................. | 98 |
| Contracting News.............................. | 98 |
| Far Eastern Railway News...................... | 99 |
| Philippine Mining News........................ | 101 |
| Far Eastern Engineering, Construction, Financial and Commercial News........................ | 102 |
| London Metal Market........................... | 105 |
| Far Eastern Share Quotations.................. | 106 |


## AMERICAN-JAPANESE RELATIONS

The voyage of the Hon. Jacob MacGovak Dickinson, Secretary of War, to the Philippines by way of Japan was marked by the warm welcome extended to him by Japanese officials at Tokyo and the exchange of sentiments tending to reassure the people of both countries that the traditional friendship between the two nations is not strained by the unwarranted attitude of several groups of agitators in Japan and America as well as Europe, who have been given more newspaper space in both hemispheres than their importance warrants. That this is the official attitude, and indeed the attitude of the great majority of the responsible citizens of both countries, may be asserted in view of the many exchange of courtesies that have taken place by visiting delegations representing the leading commercial interests of both countries and the warm welcome received respectively on either side of the Pacific.

Secretary Dickinson is a man of unusual attainments and stands foremost among America's substantial and patriotic officials. Selected for the post of Secretary of War by President Taft, Secretary Dickinson may be said to be imbued with the President's ideas regarding the insular possessions and Far Eastern affairs or Mr. Taft would not have chosen him to assume charge of a department in which he takes the greatest personal interest. And for this reason, if for no other, Mr. Dickinson's speech at Tokyo may be taken to fully represent the attitude of the Taft administration towards Japan. It should also allay any fears of ulterior motive in the attitude of Washington towards Far Eastern questions and dispel any thought of a disposition on the part of the American government to impose on the island empire.

Count Komura, the Foreign Minister, took occasion at a dinner given in honor of Secretary Dickinson to direct attention to the evil influences at work sowing seeds of distrust and antagonism between America and Japan. In reply Mr. Dickinson directed attention to the development of America and Japan from "hermit kingdoms" to powers having an interest in world affairs during the last twenty years and the continuous friendship during these years of progress. He pointed out that President Taft was fully conversant with Far Eastern affairs at first hand having studied them at a proper perspective, and now as chief executive was in a position to "put a true estimate upon all suggestions that might tend to disturb the relations between the two countries." There is no doubt but that he voiced the sentiment of the great majority of thinking Americans when he said:

"I think that you have justly and truly said that there is no reason why the careers of these two countries should not be pursued in parallel lines—with a certain rivalry, to be sure, but a rivalry which may be pursued in friendship without involving conflicting interests of a disturbing character.

"There is every reason why amity and cordial relations should exist between us, and to my mind there is no reason why other conditions should intervene. It is for the broadminded, patriotic people who are the leaders of thought in these two countries to dominate the situation and see that the people are not misled by false lights or sinister suggestions into an attitude which is hostile to their true interests and which could not be justified on any rational ground.

"The American people, while in a certain sense a warlike people, are yet great lovers of peace. I think I may justly say that their history illustrates that there is no more peace-loving people, or one more inclined to the principles of arbitration in the settlement of international disputes. Many differences are now willingly submitted to the character of adjudication which were formerly thought to be terminable only by resort to arms. Having such ideals, we may well hope to look forward in the future to the preservation of that friendship which up to the present time has been maintained, and to see it cemented with still stronger and closer ties."

The greatest intrigue of the last decade seems to have for its purpose the undermining of the friendship existing between Japan and America. This propaganda is given publicity in the yellow press of the United States and Japan and is egged on by a few irresponsible European writers. Little by little there has been created the impression that the interests of Japan and America were bound to clash. Then by degrees it assumed more definite proportions until now there is hardly a European writer who takes it upon himself to solve all the troubles the Far East is heir to, who does not declare that it will all end by conflict between Japan and America.

Now this may not be a well organized press campaign, but it has all the ear marks of it. Were one to trust one's ears these days, since the signing of the Russo-Japanese convention, all the nations, affected directly or indirectly by its terms, were having one continuous love feast. And while we are reading how France, England and Russia love Japan and are united together to preserve the world's peace, we find a few public men in each of these peaceloving nations declaring how unfortunate it is that America and Japan must proceed to destroy each other. The prodding continues. Japan's pride is hurt by misquotations from speeches of prominent Americans and America's pride is touched by lying reports quoted from the yellow press of Japan. The agency that distributes this seed of distrust among the citizens of the two countries must indeed be a powerful one and one to be greatly feared in the interest of peace. We wonder if despite this peace cordon flung round the globe there might not be found a publicity bureau of some proportions with a well filled treasury, that is not working consistently in sympathy with the program of international love and amity?

And so Japan must not permit herself to be misled, and if we are not mistaken the leaders of thought of the Empire are not so obtuse. And it would be well if the citizens of America would seek the motive behind all this vicious lying propaganda. It may serve the yellow press of America with a sensation once in a while, but it could not serve so continuously unless there were the purpose behind it, to keep the agitation from passing into innocuous desuetude.

We have reached these conclusions from the manner in which General Bell, Banker Shultz and Representative Hobson have been viciously misquoted recently. We have taken the liberty of carefully examining the speeches of these men and have failed absolutely to find one expression that might be construed as offensive to Japan or suggestive of hostilities between the two countries, and we do not believe that the lying reports of these speeches could have been made unless those who transmitted them were either vicious by nature or of that low order of creatures sustained by the yellow press who so lack principle that they would lend themselves to the service of just such an organization as we have suggested is now active.

We believe, however, that whether the agitation to spread distrust between the two nations, who have everything to gain by prolonged peaceful intercourse, is directed by a well defined organization is confirmed or not it behoves the intelligent from among the citizens of both nations to maintain great reserve in the reception of any reports that serve to create a feeling of antagonism between the two peoples.

It is certain that neither Tokyo nor Washington desire conflict and, so far as we can see, there is no motive for any change in that attitude. Then where is the basis for all this falsifying and misrepresentation? We believe it will some day be found in a well organized attempt on the part of interests outside the United States and Japan to precipitate trouble.

## THE SPIRIT OF MANILA

There is every indication that the businessmen of Manila do not propose to confine their operations to the Philippine Islands or to remain inactive in the struggle for Far Eastern trade. For the last decade the preliminary plans for the development of a great eastern commercial metropolis and distributing center for America's Oriental trade, in a large measure, have been completed and some of them carried out to a point where it is possible to report

commendable progress towards the end in view. In this work the Philippine administration has taken the initiative and there has never been lacking the enthusiastic and hearty support of the progressive commercial community and the local press. All elements seem to unite in an endeavor to promote local pride and legitimate endeavor towards bringing to the Philippine capital the greatest possible commercial prominence.

Now in all this "boosting," as it is called locally, there is an acknowledgment of the many drawbacks to early realization of fond hopes, but these free admissions are not accompanied by any expression of hopelessness. The opposite is the case. The Manila businessman of whatever nationality is invariably an optimist, generous in the support of public movements that benefit the community at large and, in sporting parlance, a "good loser" on occasion. The trials of the last decade have brought to the fore his many desirable qualities, and now that the dawn of prosperity is here, and his personal worries are largely eliminated, he is giving a large portion of his time and attention to advancing the interests of Manila to a place among her sister cities in the Orient. He desires above all that her name shall stand for the best there is in Eastern Asia.

And it is for the purpose of attracting attention to the desirability of Manila as a distributing center for the Far East that the commercial interests and the local press there have united. The new harbor at its present stage of development is one evidence of the progress of plans for the future. Now comes the proposed declaration of a free zone where goods from all parts of the world may be stored until exported to other ports in the far east. Every effort is being made to furnish desirable berthing accommodation and cargo handling at a minimum of cost at Manila and the government is in the spirit to go further if it becomes necessary to make the port more attractive to the shipping trade. But a modern harbor does not fulfil the total in facilities that attract steamship lines and trade while it may go a long way to do so. Manila lacks coaling facilities and drydocks. And note the activity in developing the coal measures of Batan to provide desirable coal at low price. Manila is not idle in this respect and nothing but the solution of this coaling problem will satisfy them. Every other resident has a few shares of coal mining stock not because he expects large dividends, but he knows that he must help in the development of the industry if Manila is to compete with other ports in the Orient in coaling facilities.

Now about the docking facilities. This is as important as the coal if Manila would point with pride to her attractions as a port and distributing center And since Manila merchants claim that Manila is to be made the big metropolis, and therefore it is necessary to increase docking facilities, why of course they are not going to rest until they are increased. Evidence of this spirit is echoed in Manila's press that is nothing if not patriotic and progressive. The *Bulletin*, the leading commercial daily in the islands, under the caption "Manila's Future as a Distributing Center," says:

"The report of the early retirement of the Toyo Kisen Kaisha from its working arrangement with the Pacific Mail and the prospect that it has entered into an exclusive agreement with the Western Pacific for its Pacific freight carrying, makes an interesting situation in transpacific commerce and bodes well for greater activity in Oriental trade. And in it all Manila should profit.

"The opening of the Chicago Milwaukee and Puget Sound Railway was the first movement toward the breaking of the Harriman-Hill monopoly in transcontinental freights and the opening of the Western Pacific this month adds to the gayety. With their respective connections in the Pacific, the war will be extended in a merry fashion to our very door.

"The Pacific Mail does not propose to give up the battle by any means and indeed it was in that company's motive for ordering the two 38,000 steamers for Pacific waters that the news of the defection of the Toyo Kisen Kaisha became known. This involves an expenditure of about $6,000,000 and will add two vessels well to the fore compared with Atlantic standards.

"All this activity goes to show that more and more interest is being taken in Oriental trade and in this activity the Philippines should get its share of attention. The proposition to establish a free zone in the new port and to encourage the establishment of a far eastern distributing center in Manila should not lack for encouragement at this time and we believe that even if the end in view is not accomplished as soon as we would wish, we should do our share to make Manila sufficiently attractive so that once the American manufacturers begin looking for a distributing center, that Manila will offer the best facilities for the purpose that may be found in the Orient.

"At the present time we must admit that Manila does not shine as a distributing center for the East. It is confining its attention almost entirely to the island trade. And with the American manufacturers reticent about Oriental commercial adventure, the present outlook for Manila in that role is not very encouraging. However, Rome was not built in a day.

"We must make a beginning. This might be done by officially establishing a free zone. The announcement alone would prove of advertising value. Then keep up the good work of interesting American manufacturers in Oriental trade and the desirability of just such a distributing center as we are proposing to develop at Manila. It will not take many years to induce the manufacturers to make a start and the rest will be easy.

"Particularly should this movement appeal to the Manila merchant at this time when the different steamship companies show an eagerness to secure advantages in the different ports. We are in a position to offer special inducements to shippers and importers as well as the shipping companies and with one of the finest harbors in the east, there is no reason why Manila should not claim her portion of Oriental trade within the next decade. There are many advantages and inducements that might be made that would not fail to help along this program and it rests with us to figure them out carefully and place them where they will do the most good."

There is no controversy over this matter. Following the *Bulletin* comes the *Manila Times*, the pioneer daily of the Philippines, with a complete endorsement of the *Bulletin's* comment and with a handsome addition of good suggestions in the typical patriotic Manila spirit. The *Times* says:

"The *Daily Bulletin* published a very interesting and timely article on the future of Manila as a distributing point, based on the entrance to the Pacific trade of the Chicago, Milwaukee and St. Paul and Western Pacific railways, and the decision of Pacific Mail to order two new liners of large tonnage. The *Bulletin* points out the fact that Manila does not shine as a distribution point in the oriental trade and once more brings forward the suggestion that there be created a free zone at this port in order to simplify the handling of goods intended for reexport. This whole question is one of very great importance not only to the future of the Philippines but to American trade in the far east and should commend itself to all who are interested in either.

"Manila, as has been pointed out on a number of occasions, offers peculiar advantage to American manufacturers for the distribution of their products in this part of the world, but up to this time it has not been possible to make much progress with the project. The establishment of a free zone would tend to advertise it, but it will be necessary also to work among the American manufacturers and commercial organizations.

"Manila is the natural oriental terminus of the American Trans-Pacific lines, but at the present time the port lacks the facilities to make its use for such purpose possible. It has no drydock capable of handling the liners, it relies upon imported fuel and the cost of repairs exceeds the cost at Hongkong. Philippine coal measures are being opened and it will not be many years before Manila can be made an excellent coaling port, but the rest of that problem remains unsolved and probably will remain unsolved until the governments here and at Washington unite for its solution. At the present time it is the practice, especially of the Washington government, to throw business to the yards of Shanghai, Hongkong and Singapore. In this connection several million dollars have been spent in the last few years and while it has represented economy for the time being its effect has been to injure the local industry and to further set back the time that Manila will be a fully equipped port. Steps are now being taken to once more draw this question to the attention of the two governments and every person who has a spark of interest in the welfare of the community should unite in urging fair and intelligent consideration for it.

"There is a future for this port and that future can be made a very great one, but the two governments concerned have got to interest themselves in the project and lend their money and influence to the laying of the foundation."

There is always the fixed purpose of making the future of Manila something to be proud of. And Manila is succeeding. That kind of spirit will not down. Indeed, a few years ago it was no unusual thing for the wandering Manilan to find his city tabooed on every hand throughout the Orient, in Europe and in America. Today no such attitude towards Manila is found. Instead of being vilified, Manila has become, during the last few years, one of the most attractive ports in the East for tourists. Its praises are being sung everywhere. And all this is due to the spirit of the merchants and residents who have made an expensive and well directed campaign of publicity reaching every part of the world. They have entertained thousands of strangers at personal expense and, slowly but surely, the real Manila and the real Manila spirit has been recognized. And yet the good work by organization is being kept up and the year 1910 is being marked by the most effective work The Merchants' Association is the most sanguine of all the organizations in this respect. Then there are the state societies. Each state has a committee searching for visitors from the homeland. If one is found for instance from Ohio, he will find himself the guest of a strong organization from his home state and by the time he leaves, another "booster" for Manila and the Philippines has been added to an already long list.

And in all this desire to further the interests of Manila, the spirit of reciprocity with other cities of the east is being fostered. Manila is ready to co-operate with her neighbors on any movement designed to benefit all. This has been demonstrated in many ways during the last decade. And in return an improvement in the relations among the far eastern cities, and especially towards the Philippine capital, has been noted.

Judging from the patriotic attitude of its citizens, Manila may be expected to be heard from in the future, and if the port does not secure its share of far eastern trade it will not be the fault of the men in whose hands its destiny rests at present.

## THE PROPOSED INVARIABLE CALENDAR

The reform of the Gregorian Calendar has been the subject of much discussion among savants during the last twenty years and many suggestions in the direction of simplifying and revising it to meet modern commercial conditions have been offered for consideration. The adoption of some new system of dividing the year has been advanced by not a few publicists in order to eliminate confusion occasioned by the conflict of the Julian and the Gregorian calendars.

The latest proposal and which has won favorable comment in the leading journals of Europe is that of Professor Grosclaude of Geneva. In the June number of the *Internacia Scienca Revuo*, Professor Grosclaude presents a summary of his scheme accompanied by a calendar for the year. He writes:

"Imitating the liberty that Emperor Julian took in adding one day to the year each fourth year, and similarly that taken by Pope Gregorio in cutting out three days every 400 years, to keep the calendar in accordance with the seasons, I think that one may well follow the same course of action and compute a year as 364 active days, the 365th being made an extra

day which would be placed before the first of January and might be called New Year's Day. The disposition of this day would in no wise be detrimental commercially as it is a day universally accepted as a holiday.

"If this proposal proves acceptable, the remainder of the project would fall in line quite simply. The 364 days naturally divide into four equal parts and one can retain the custom of speaking of "quarters" and "half years."

"Each quarter year having 91 days divides exactly into 13 weeks in a manner that makes each quarter begin on a Monday and end on a Sunday. This practically explains the whole system. Our present Leap Year Days would be located after June 31st, and before July 1st, to be an extra day and like the proposed New Year's Day, to be part of no week and an accepted holiday.

"One of the consequences of the acceptance of this proposed calendar in civil life would be the definite fixing of national feast days, vacations for schools, the calendars of law courts, parliaments, etc. To the commercial world it would be of great convenience and benefit from the fact that the 30th day of the month would never be Sunday, while the last day of every quarter would always be Sunday. Each month would therefore reckon 30 days. As a result percentage calculations and the striking of commercial balances would be greatly facilitated. In addition to this the fixed calendar could be easily memorized, a thing impossible with the Gregorian Calendar."

The calendar accompanying this comment is a simple division of the year which begins on a Monday and ends on a Sunday. Each quarter is divided into two months of 30 days and one month, the last month of each quarter, 31 days, the 31st day being a Sunday as described above. This places 31 days in March, June, September and December.

There is no change in this calendar from year to year excepting the addition of Leap Year Day between June 31st and July 1st when it is due. The holidays marked are fixed dates such as Palm Sunday, March 31st, Good Friday, April 5th; Easter Sunday, April 7th; Pentecost, May 26th; All Saints, November 1st, and Christmas Day, December 25th.

## THE RUSSO-JAPANESE CONVENTION

The official publication of the terms of the convention, July 17th, confirmed the unofficial reports as to its character upon which we based our comment in July. As given out by the Japanese government the terms of the convention follow:

"The Imperial Government of Japan and the Imperial Government of Russia sincerely attached to the principles established by the Convention concluded between them on the 30-17 July 1907 and desirous to develop the effects of that Convention with a view to consolidation of peace in the extreme east have agreed to complete the said arrangement by the following provisions:

"ARTICLE 1. With the object of facilitating communications and developing the commerce of nations the two High Contracting Parties mutually engage to lend to each other their friendly cooperation with a view to amelioration of their respective railway lines in Manchuria and the improvement of the connecting service of the said railway and to abstain from all competition prejudicial to the realization of this object.

"ART. 2. Each of the High Contracting Parties engages to maintain and respect the status quo in Manchuria resulting from the treaties, conventions and other arrangements concluded up to this day between Japan and Russia or between either of these two powers and China. The copies of the aforesaid arrangements have been exchanged between Japan and Russia.

"ART. 3. In case any event arises of a nature to menace the status quo above mentioned the two High Contracting Parties shall in each case enter into communication with each other in order to arrive at an understanding as to the measures they may judge necessary to take for the maintenance of the said status quo."

The French press continues unanimous in approving of the convention. The *Temps* believes the two powers have every reason, mutually, to look after their own and each other's position, which, in spite of the theory of the "Open Door," is by force of circumstances a privileged one. It finds great satisfaction that the respective allies of England and France are drawn into closer intimacy and that the danger of misunderstandings in Europe over Asiatic questions have now been eliminated.

The *Débats* declares that the convention is a definite answer to the attempts of China to regain her ascendancy in the territory involved and to the Knox proposal to assist her by means of the neutralizing of Manchurian railway. The *Débats* is also pleased that it will give Russia a free hand in Mongolia and removes all objection to the early annexation of Korea by Japan.

The American press with few exceptions take little interest beyond passing comment and generally accepts the convention as a satisfactory adjustment of the connecting services of the railways controlled by the two countries in Manchuria. The *New York Herald*, however, takes the view that the convention is prejudicial to the interests of Germany and the United States.

The *San Francisco Chronicle* states that Secretary Knox, while trying to achieve something in Manchuria in China's interest, succeeded only in making an exploitation partnership possible between Russia and Japan. "The Japanese-Russian scheme," says the *Chronicle* "is to make joint rates for railway freight, build railway feeders, settle immigrants and otherwise exploit the country. There is not much 'neutralization' in all this; and incidentally, considering Hay's note and Knox's letters, very little politeness."

The German press is generally reserved in its comment witholding judgment until the economic aspect is more fully developed. The German foreign minister upon being officially notified declared that he expected the Open Door principle to be maintained in the future.

The Japanese press generally endorses the agreement. The *Jiji Shimpo* takes the public into its confidence and states that France and England were consulted by the contracting parties at every stage of the negotiations; were heartily in accord, and that this may be taken as indicative of the official approval of three of great powers of Europe. The *Kokumin Shimbun* says that the principle underlying the convention is the desire of the two powers to remove any possible cause of friction between them. It refers to the objection of Germany and Austria to the free hand it gives Russia in the Near East as a feature with which Japan has nothing to do as it is not probable that Japan will ever become mixed up in the Balkan trouble. The entire Japanese press denies the existence of a secret convention as has been alleged; giving Russia a free hand in Mongolia and Japan the privilege of annexing Korea.

The British press is not unanimous in its approval of the convention. The *Times* declares it is a fresh contribution to the peace of the world, but the Manchester *Guardian* believes it is mainly directed against the United States, while the *Standard* is of the opinion that it is directed against China's aspirations to reestablish her sovereignty in Manchuria.

But China officially and through the press is far from pleased with the manner in which the two countries proceeded to an agreement respecting her territory without consulting her, and, suspicious of Russian and Japanese designs, hints at a secret understanding.

In reply to the official notification of the signing of the convention the Waiwupu issued the following note:

"The Imperial Chinese Government having carefully perused the new Russo-Japanese Convention, concluded on July 4, 1910, copies of which were handed to the Waiwupu by the Russian and Japanese Ministers in person, the following acknowledgment, dated July 21, has been sent to them:—

"Since the Convention expressly states that each of the High Contracting Parties engages to maintain and respect the treaties, conventions and other engagements concluded between China and Japan, between China and Russia, and between Japan and Russia, the Convention, therefore, accords with and confirms the principles of the engagements entered into by Japan and Russia by the Treaty of Peace of 1905 and those of the treaty and agreement concluded between China and Japan relating to matters in the Three Manchurian Provinces. For by Article III of the Russo-Japanese Treaty of Peace, Russia and Japan mutually engage to restore entirely and completely to the exclusive administration of China all portions of Manchuria and declare that they have not in Manchuria any territorial advantages or preferential or exclusive concessions in impairment of Chinese sovereignty or inconsistent with the principle of equal opportunity, and by Article IV Japan and Russia reciprocally engage not to obstruct any general measure common to all countries which China may take for the development of the commerce and industry of Manchuria. In the same year China and Japan named their plenipotentiaries and agreed upon and concluded articles at Peking, based on the Treaty of Portsmouth and relating to matters in the Three Manchurian Provinces, whereby the opening of Manchuria became an accomplished fact.

"The Imperial Chinese Government will, therefore, in the future, act in accordance with the principles declared in the Treaty of Portsmouth and execute the provisions of the treaty and agreement with Japan, maintaining with increased efforts such matters as measures arising from the exercise of China's rights of sovereignty, the principle of equal opportunity, and the development of the commercial and industrial prosperity of three Manchurian provinces, with a view to the promotion of the best interests of all parties.

"A copy of the above acknowledgment has been presented to the Governments of all the countries with which China enjoys treaty and diplomatic relations."

This promises to become a historic document and will have a bearing on the situation in Manchuria when the time arrives for the retirement of Russia and Japan from the Eastern Provinces.

H. E. Chang, Minister to the United States, is quoted as saying that the convention has interfered with the conclusion of the Chinchow-Aigun agreement and that Americans sincerely regret that their benevolent purpose in proposing the neutralization of the Manchurian Railways has led to a further restriction of China's sovereignty in that region.

Altogether, no incident of the year has created more world wide attention.

## JAPANESE DELEGATES IN CHINA

**The reception of the Japanese delegates at Shanghai, June 16th, was one of the most important during an interesting tour of the principal points in China of a representative body of businessmen, and all the visitors have expressed themselves more than pleased with their reception and their experiences as guests of the Chinese. The purpose of the visit, as announced, was to promote closer commercial as well as friendly relations with the Chinese. From all accounts the party succeeded in making a good impression. The Nanking correspondent of the *Mainichi Dempo* refers optimistically to the visit of Mr. R. Kondo and his party and expresses the belief that the result will be a more friendly spirit among the Chinese toward Japan. All the newspapers have referred in a friendly tone to the visit including even the papers of anti-Japanese tendencies. Already, says the correspondent, there are signs that the Chinese are beginning to regard Japan more as a friendly neighbor than a hostile rival. At the reception at Shanghai Mr. Chu-Ching-tzen in his address of welcome stated that the relations between China and Japan should be strengthened by more friendly intercourse between the businessmen of the two countries.**

**In reply, Mr. Kondo stated that the amicable relations between China and Japan were the seedbed of peace in the extreme east and that the peace of the extreme east was at the bottom of the peace of the world. Reference was made during the visit to the racial and language kinships which would be wasted if not utilized in furthering mutual economic interests.**

## CHINA'S ARMY AND NAVY

*(Continued from page 86)*

"In order to increase the efficiency of the service the Prince Regent thought best last year to detach the general staff from the War Office, and appoint His Imperial Highness as Controller General, with myself as chief officer. I need hardly add that it is the settled purpose of His Imperial Highness to use the utmost endeavor to bring the Chinese army to the highest state of efficiency. With the view of giving dignity to the military profession, he proposed last year that the Emperor should assume the title of Commander-in-Chief of the military and naval forces of the Empire, and that during the minority of His Majesty the Prince Regent should act in that high capacity.

GENERAL YIN CHANG AND STAFF AT THE ANHUI MANEUVERS—RECENTLY PROMOTED FROM MINISTER TO GERMANY TO WAR MINISTER TO SUCCEED H. E. TIEH LIANG.

"It was the practice for the eighteen divisions of the imperial army to guard Peking by turns, but last year the Prince Regent thought this inconvenient, and ordered the organization of a special body of troops for the protection of the palace, with himself as Commander and Prince Tao as Inspector General.

"China, on account of the extent of her territory, the density of her population and the length of her coast line, needs a large army for protection and defense. It is the purpose of the Prince Regent to provide the country with such an army. The object of this mission is to carry out the ideas of the Prince Regent in this regard.

"I consider it a great privilege to be able to see in so short a time so much that is interesting and instructive in this country from a military point of view. For this privilege I have to thank the Government and people of the United States."

Ten years ago, China's military organization might be said to have been a negligent quantity. The carrying of arms was not considered an honorable profession with the result that none of the better class of Chinese took the slightest interest in providing a comprehensive army for the defense of the country and, indeed, the internal system of military police was far from satisfactory.

It might be said that H. E. Li Hung-Chang was the first to initiate a movement to encourage a military spirit among the younger generation. That was over eleven years ago. He established military schools and did everything in his power to induce the better class to take a course of training and accept a career in the army. The brilliant success of H. E. Yuan Shih-kai, with his Northern Army developed under modern training, made a marked impression on the Chinese people and did more than anything else up to that time in elevating the Chinese conception of the profession of arms.

Then followed the demonstration of Japan, with her splendid military organization during the war which removed the prejudice against the soldier and impressed the better classes of China with the necessity of an effective military force, modernly equipped to preserve the Empire to herself and save her from the humiliations to which she had for many years been subjected for lack of a proper military spirit. Judging from the activity along military lines now manifest throughout the Empire, it may now be truthfully said that the old Chinese proverb, "no good man would be a soldier, no good iron would be a nail," no longer guides the intelligent Chinese mind.

The present status of Army organization in China is based on the Imperial Edict following the recommendation of H. E. Yuan Shih-kai providing for the organization of thirty-six Divisions of 12,500 men each to be known as the National Chinese Army. The original intention was to have this organization complete and an army of 450,000 trained soldiers ready for the field in 1918. According to German authority, this organization will be effected in 1912 or six years earlier than proposed.

This National Army is exclusive of the Imperial Guard Corps, comprising three divisions and an aggregate of 30,000 men, and the provincial troops. The reorganization of the Imperial Guard as outlined by the Prince Regent by the decree of December 3rd, 1908, and provided for its completion of the organization in two years. The provincial forces are a separate body of men and aggregate according to various estimates to about 500,000.

Gen. von der Boeck of the German Army, in an article on the Far Eastern situation and particularly the relations between Russia and Japan in the *Deutsche Revue*, directs attention to what he terms an important factor as affecting these relations, in the renaissance of the Chinese military power. "Japanese instructors," he writes, "swarm in China, and are swiftly building up a mighty military machine as their ally."

"The original plan of the Chinese Government was to form thirty-six divisions, each of 10,000 men, and to have this entire force ready to take the field before the year 1922, but it is perfectly evident from the reports which have filtered through to Europe that this huge army will be ready by 1912, or ten years earlier than was originally intended.

"Gen. von der Boeck is inclined to believe from the reports of German officers who have recently visited China that in 1912 the Chinese will possess a well equipped army of half a million men, the greater part armed with modern weapons and with a discipline and organization infinitely superior to anything which China has hitherto produced. Gen. von der Boeck thinks that Japan's policy of Asia for the Asiatics, with Japan at the head of the coalition of the yellow races, will then be within measurable distance of realization."

The tour of investigation under the direction of H. I. H. Prince Tsai Tao will no doubt result in new interest in the many military departments, and the skeleton plans now being followed will be developed in a comprehensive scheme along the most modern methods selected from the best now in vogue in the leading countries of the world. It was thus that Japan worked out her splendid organization, adopting the best and excluding the more antiquated. China proposes to benefit by Japan's experience.

*The National Army* (*Lu-Chun*). The Imperial Edict of June 1, 1907, established the Ministry of Army Affairs (Lu Chun-pu) comprising a President, two Vice-Presidents, two Councillors and two secretaries. H. E. Tieh-Liang was the first president. Prince Ching held the post of Senior President of this board until October, 1909. The Lu-Chun-Pu was intrusted with the entire control of the organization of the new army. It is divided into a central department, a military council and ten bureaus.

The Council handles matters of organization and intelligence, and the ten bureaus deal largely with corps matters, such as transport or quartermaster, commissary, arms, ammunition, artillery, forts, recruiting, military law, cavalry, etc. In addition to the bureaus, there is a General Staff divided into 5 bureaus and sub-divided into 15 sections. Its prescribed establishment is 58 officials and 14 military officers, who work out plans of national defense, and supervise generally the instruction of officers for the staff and control the military academies and schools. The active direction of the Lu-Chun is controlled by the Board, though for organization, discipline, supply and pay the provincial viceroys or governors are responsible. The latter are also responsible for the efficiency of the troops alloted to their respective provinces which are periodically inspected by generals attached to the central board.

According to an edict issued on February 17th, 1910, H. E. Tieh Liang, President of the Ministry of Army Affairs, was given a month's leave on account of severe illness and Shin Shun appointed to act for him on the Board of War. The same edict named Na Ching, a brother of Na Tung, as Vice-President of the Board of War. Later H. E. Tieh Liang submitted his resignation and General Yin Chang, Chinese Minister to Berlin, was appointed to succeed him. Many reasons are given for Tieh Lang's resignation, among them that the Prince Regent had refused to recognize a loan of Tls. 800,000 which the former had contracted on behalf of the Board of Army Affairs and as result H. E. Tieh Liang is said to be personally responsible for its redemption. Other authorities accredit it to his recognition of his waning influence since the organization of the Imperial Guard, the independence of the General Staff and the establishment of the Naval Bureau were confirmed. Others claim that he was untrue to his old friend Yuan Shih Kai and

forced the latter out of politics as a return for the latter's influence in securing for him recognition, and now he in turn finds himself out in the cold, and it is said by influences not unfriendly to Yuan Shih Kai.

Of his successor the Berlin Correspondent of the *North China Daily News* says:

"General Yin Chang has the reputation of being fully alive to modern military developments. Shortly before his return to Germany he greatly impressed German military critics by refusing to allow some manoeuvres to be interrupted by the death of the Emperor. This was regarded as a perfectly correct attitude which would almost certainly be adopted in similar circumstances in this country. A little later he won the unreserved respect of European diplomatists by refusing to allow himself to be recalled from his post after the death of his mother, preferring to remain at work rather than to accept the usual three years' leave of absence during the period of mourning. The General enjoys probably a greater measure of popularity than any other Oriental diplomatist in Germany.

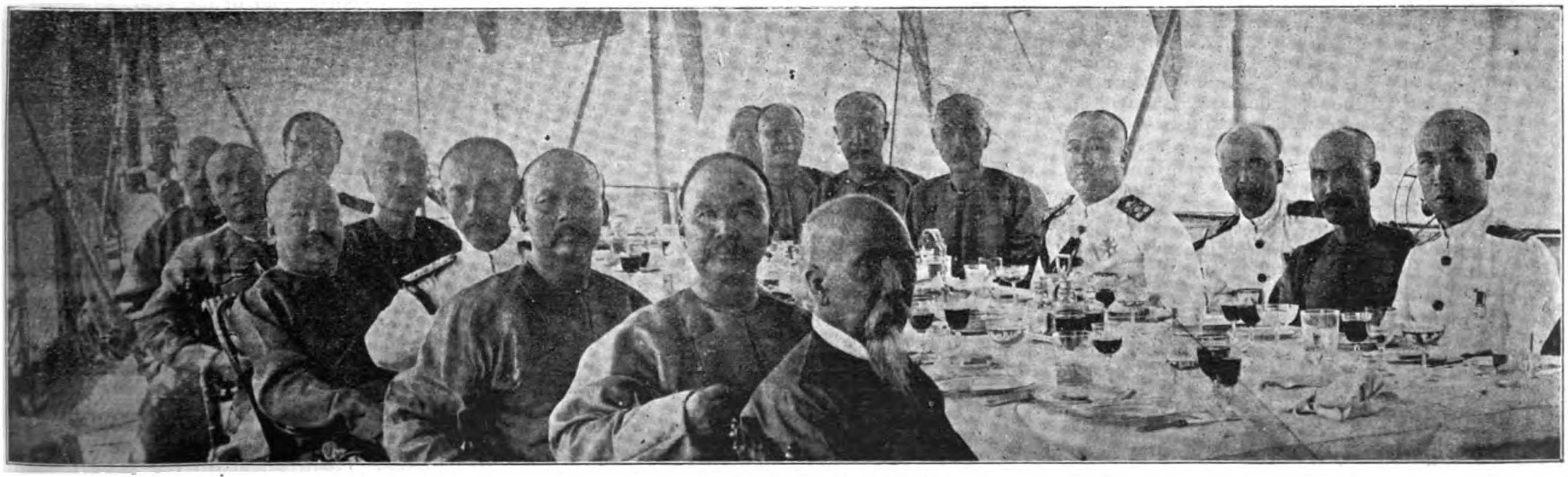
"He is expected to produce a further and noticeable improvement on the most approved modern lines in the Chinese military organization. For his own part, however, he does not think so highly of the possibilities that lie before him. A few days ago, meeting His Excellency at the reception of the Foreign Press Association, I asked him whether he were glad to be going home, expecting, of course, the common-place reply. To my surprise he remarked 'No, I am not glad to be going back. I would rather have remained and worked here. I do not think that our country is yet sufficiently far advanced for a man to be able to achieve great results in a short space of time. I do not look upon my appointment either as an enviable one or one in which I am likely to be able to achieve any very striking results.'

"I gather that the change will not be made at any rate for a couple of months until after the return of the Prince and the special Chinese Commission to Berlin."

Reuter on March 24th announced that, in the course of an interview with the *Lekal Anzeiger*, General Ying Chang said that he contemplated introducing universal military service in a modified form into China and also to found military training schools. These plans, he said, would doubtless bring him into conflict with the Ministry of Finance. He, however, intended to submit his plans to the Prince Regent and if the difficulties proved insurmountable he would resign.

A Peking telegram to the *North China Daily News* says that the proposal was recently made to replace all the older officials in the Ministry of War by graduates with modern military

H. I. H. PRINCE TSAI HSUN
PRESIDENT OF THE NAVAL BOARD



H. I. H. PRINCE TSAI-HSUN
PRESIDING AT A LUNCHEON ON HIS FLAGSHIP. AT THE PRINCE'S LEFT IS ADMIRAL CHING, AND OPPOSITE SITS ADMIRAL SAH

training, and this proposition provoked a storm of ill-feeling on the part of the old officials who number over 2,000 men. It was partly due to this reason that ex-President Tieh Liang hastened his resignation; and it is stated that the new President elect, H. E. Yin Chang in Berlin, is none too anxious to face the situation and has tried to defer his return as long as possible, on the ostensible ground of waiting for Prince Tsai Tao's arrival in Germany.

*The Imperial Guard of China.*—By Imperial Decree issued December 3, 1908, the Prince Regent appointed Prince Tsai To, Prince Yu Lang and H. E Tieh Liang Special Commissioners to supervise the training of the Imperial Guard and at the same time appointed Prince Pu T'ung (younger brother of Prince Lin), T. E. Ha Hang Chang, Hsu Chih Shan, Chang Yu Chun, Tien Hsien Chang, and Wen Hua Military Councillors. The Prince Regent retained the right to supervise the work of the commissioners and its councillors and under this plan the organization of the Imperial Guard was begun.

There had been what was called the Palace Guard dating from the reign of Emperor Kuang Hsu. Among the officers in charge were Chiang Kuei T'i, Chan Hsun and other Han generals, but the political disturbance of 1838 introduced many factions in the court and continual strife between the Manchus and Hans made the situation far from pleasant and exposed the Throne to an attempt of the Hans to remove the person of the ruler. Indeed, upon the death of the late Emperor and Empress Dowager it was found necessary to assign a part of the Sixth Division at Nan Yuan to duty in Peking as the soldiers guarding the Forbidden City were considered insufficient.

The Prince Regent, no doubt, realized that the throne would be more secure with a well organized body directly under his control. One censor is reported to have submitted a memorial in which he pointed out that the imperfect condition of the Palace Guard would increase the audacity of knaves and urged such an organization as the Prince Regent afterwards decided upon. It is expected to give the Prince Regent greater security and strengthen the unsteady political power of the Sovereign in the event of a crisis.

According to the *China Tribune*, the time given for the complete organization of the Imperial Guard of China was two years divided into four periods, and when carried out would consist of a training bureau, two brigades of infantry, one regiment of cavalry, one regiment of artillery, one battalion of engineering corps, one battalion of army service corps, one battalion of machine gun corps, one company of communication troops, one company of railway corps, and a military band, making in all 30,000 men.

The organization for the first period was completed on the 17th of the 9th Moon, this year. This consisted of one regiment of infantry and one regiment of artillery, both selected from the 1st Division stationed at Pei Yuan. The Battalion Commander is Ting Chan. Colonel Whang Wang is a soldier who received modern military education, and occupies a prominent position in the military circles in China. Of late, Gen. Liang Pi became the commander of the brigade, and through his efforts, good results were obtained.

Gen. Liang Pi is one of those military men who sincerely expect to do great things for China's army in the future. A strict man, the general is eager to maintain discipline, and by picking out young officers possessing modern military education and placing them under his command, is endeavoring to modernize his troops. His reformatory, decisive action must be said to be in accordance with the spirit of China for building up a new army.

Later, there was a little change in the special Training Commissioners of the Guard, H. E. Tieh Liang being relieved by Prince Tsai Sou at the time when the Naval Staffs Bureau was established.

It is the purpose of the Prince Regent to make the Imperial Guard the model organization of China's military system. The strength is being selected from men picked from the First Division and the Banner men Class. Care is taken in the selection of the equipment, and in this particular it is an improvement on the Sixth Division better known as the Pei Yang Army. The present artillery consists of eighteen German guns to which are being added a number of more modern pieces ordered from Germany. Khaki colored cloth is used for summer uniforms and a heavy gray tinted material for winter. The manual of arms is modern and exhibitions of drill impress the visitor with the precision with which commands are obeyed. The soldiers are familiar with the open and close formation. Indeed, the Imperial Guard shows every indication of proving all that the authorities expect of it.

Some criticism might be made of the selection of the cavalry horses and their equipment, but as this is a matter of detail, it no doubt will receive the proper attention in due course.

Although the troops for the first term have been successfully organized in a comparatively short space of time, whether the rest, that is to be formed in the proposed limited period of two years, can be completely made up, equipped, and trained, is a question which can not be answered at the present juncture in confident affirmation. The work consists to organize one regiment of infantry, one battalion of cavalry, one battalion of artillery, one company of engineers, and one company of army service corps, by conscription, and has been been going on ever since the 20th of November, it being expected to be completed by the end of the present Chinese year.

*Manchuria.*—The activity of Russia and Japan in the Eastern Provinces has served to create a feeling of insecurity among the Chinese leaders lest China's authority in that important region be endangered and every effort is being made to so police the territory with Chinese soldiers that there could be no pretext for military occupation on the part of either of these powers. Among the many excuses for the extension of Russian and Japanese police powers in this section of the empire, the depredations of the Hunghutze, or "red beard" bandits, threatening foreign property, has always been the most prominent. It served to cover the organization of a large force of railway police, etc., regardless of treaties and agreements providing for the respect for China's integrity. China believes that the struggle in the Far East between Russia and Japan is almost sure to be renewed. It involves neutral Chinese territory and every move on the part of either power to strengthen her position for the future conflict is realized as an added menace to Chinese authority in Manchuria.

General von der Boeck's opinion is that peace between Russia and Japan cannot be preserved beyond the close of 1912. This is also the opinion of M. Glemser, a member of the Industrial Delegation of the Russian Council of Empire. It is pointed out that the Russian troops now in the Far East aggregate 200,000 on a peace footing and this can easily be increased to 300,000 without drawing from European Russia. The double tracking of the trans-Siberia adds to the force of these conclusions. Vladivostock is being strengthened and the building of the Amur railway is another indication that Russia is in the Far East to remain.

On the other hand Japan is engaged in strengthening her position. Her army has been increased from thirteen to nineteen divisions since the close of the war. It is estimated that on a war footing her army would not number less than 550,000 men and 120,000 horses and this could be increased to a million at short notice in the event of hostilities.

This German authority is imbued with the belief that when the trouble comes China will be forced into the position of ally to Japan. He bases this conclusion on the information, he believes reliable, that the new Chinese National Army is being organized along Japanese lines and drilled by Japanese officers for just such a purpose.

There is reason to believe that China does not desire to be drawn into this struggle and that she is anxious to so assert her sovereignty over Manchuria as soon as her present agreements with Russia and Japan expire, to the exclusion of foreign influence. To be able to do this, she knows she must have a strong military force backed by a strong central government. During the last few years China has consistently opposed every move designed to ignore her sovereign rights in that territory. She has been relying on the promises of the powers to recognize that sovereignty and while she has reason to doubt the sincerity of some of her professed friends, she proposes to do her part to the extent of her power. Her growing military spirit may be taken as an indication of her policy in that direction. The recent proposal of Secretary Knox has cleared the atmosphere somewhat, and China knows now just how much she may rely upon the agreement of the powers to maintain China's integrity and assist her in maintaining the "Open Door" And so she is providing for the future maintenance of her authority by increasing her forces in the Three Eastern Provinces.

The latest statistics available on China's forces in Manchuria are furnished by the *Golos Moskvy* as follows:

"In all three provinces of Manchuria the field troops at present comprise 38 battalions of infantry, 6 divisions of cavalry, 18 artillery batteries with $2\frac{1}{2}$ guns, $1\frac{1}{2}$ battalions of sappers, and $1\frac{1}{2}$ survey companies. The men number 19,153 infantry, 1,344 cavalry, 2,267 artillerists, 630 sappers, and 630 surveyors, a total of 24,024 regular troops. The reserve comprises the following divisions:—In Mukden province, 16 infantry and 28 horse battalion; in Kirin province, 18 infantry and 15 horse battalions; and in Tsitsihar province 6 infantry and 15 horse battalions, with 1 infantry and 7 mounted battalions sent from Mukden. The total reserve is thus 41 infantry and 65 cavalry battalions. The men number 12,341 infantry and 12,285 cavalry, a total of 24,626. According to the scheme of military reforms in Manchuria it is intended to increase the above reserve strength in time of peace by 22 battalions of infantry, 9 divisions of cavalry, 27 batteries with 135 guns, $3\frac{1}{2}$ battalions of sappers, $3\frac{1}{2}$ battalions of surveyors, the number of men being as follows:—11,078 infantry, 1,916 cavalry, 2,592 artillerists, 1890 sappers, and 1,890 surveyors, a total of 19,366. In war time this number is to be further increased by 41,328 infantry, 1,916 cavalry, 2,592 artillery, 4,410 sappers, and 4,410 surveyors, a total of 54,656. Thus in the event of war, the Manchurian Army will, according to the scheme, reach 122,672 men."

This number may of course be augmented by the well-drilled Manchuria police. These police have accomplished much in destroying the raiding bands in and about Harbin. The Russian police had endeavored for years to give protection to life and property, but little success resulted until the work was taken in hand by the Chinese police under the direction of H. E. Shih Shao Shi, Customs Taotai of Harbin. These forces are divided into small mounted and dismounted companies. Wherever they have been operating for any length of time they have displayed unusual ability in coping with the lawless element and in the field, as scouts would prove invaluable.

Many incidents of clashes of authority between the Chinese and Japanese officials find their way into print and whether serious or not, is indicative of the zealous spirit of the Manchurian officials in their endeavour to force respect for Chinese authority. For instance, the native papers directed attention to an incident relating to the policing of the Kirin frontier. It appears that General Wu Lu-tseng, Imperial High Commissioner in charge of the Kirin frontier defences, made an arrangement with the Viceroy of Manchuria, Hsi Liang, that he (the former) should bring with him a portion of the army from Moukden to strengthen the frontier guards. Shortly after the conclusion of that arrangement, Viceroy Hsi Liang received warnings from the Wai Wu-pu that the latter had received intimation from H. E. Hu Wei-te, Chinese Minister at Tokyo, to the effect that the Japanese Government had informed said Minister that if China despatches more troops to the frontier, Japan would do the same thing. On the receipt of the above message, Viceroy Hsi Liang at once withdrew the promise which he had made to Lt. General Wu Lu-tseng.

Recently, however, Lieut. General Wu Lu-tseng has wired to Viceroy Hsi Liang that a number of Japanese soldiers had secretly crossed the Tiumen River and had gone as far as Lu Tao-kow, on the pretence of replacing their former guards, and that the troops he has at his disposal are unable to cope with the Japanese. He is utterly helpless and asks Viceroy Hsi Liang to despatch troops to his assistance. Hsi Liang is placed in the most difficult position, not knowing what step he ought to take in the matter.

The above would indicate that the local officials in Manchuria desire to maintain Chinese authority but without substantial support from Peking, all their good intentions come to naught.

Viceroy Hsi Liang, who is strongly in favor of a large force for frontier defence, applied to the throne for Tls. 300,000 annually for the purpose until the Three Eastern Provinces were independent of outside assistance. He received but Tls. 100,000 out of the Dairen customs receipts.

During the last few years China has undertaken the policing of all the territory outside the railway zones and opposed tooth and nail any interference with her authority. The reconstruction of the Antung-Mukden Railway by the Japanese gave occasion for differences growing out of the policing of the railway right of way, but after some delay in negotiations the matter was adjusted. Several clashes have been reported between the Chinese and Japanese police, but China's sovereignty is recognized and late advices are to the effect that conditions are now satisfactory. The following is a report from Seoul given out by a Japanese attaché of the Residency General at the Chientao Branch:

"According to investigations up to the end of June last, there were 82,999 Koreans, 273,712 Chinese and 250 Japanese merchants in Chientao. The rumoured dispatch of more Chinese troops is a mistake, due to the arrival of Kirin troops who relieved the garrison. The number of the garrison was 3,500, but the figure is thought to be less at present, as many of them left on the expiry of their term. Japan has 2,000 gendarmes and 4,000 Korean police in the place. The situation is peaceful and there is no fear of outbreak though occasional collisions take place."

*Mongolia.*—The fear of Russian encroachment prevails among the Mongolian princes. Prince of Turgut, who recently returned from Japan where he concluded a course in military training, is a leader in a movement to inaugurate a comprehensive defense of Western Mongolia. Lack of means of communication and of co-operation on the part of the Mongol leaders have been a great drawback to any attempt to join interests in this direction. The new national army scheme does not include Mongolia, but Peking has a well defined plan to encourage Mongolian support. The construction of railway lines connecting Peking with the different sections of the border province is in this direction and it is noted that Mongol Princes are receiving marked attention from the Prince Regent. The colonizing of Mongolia, by encouraging Chinese from the thickly populated sections of the Empire to settle there and develop the country, is another movement that is receiving Imperial encouragement.

Few statistics are available with regard to the military forces scattered throughout Mongolia, but several authorities are quoted placing the number at about 40,000, all of whom have been drilled by Japanese instructors and armed with modern rifles. All the frontier posts have been strengthened and in Kobdo and Uliasseitai where Russian influence is very strong the government is active in organizing a military force under the direction of a Chinese instructor, a graduate of a German military school.

OFFICERS OF THE MANCHURIAN FOREIGN-DRILLED ARMY

The construction of the railway extension from Kalgan to Kiakhta, it is believed, will strengthen the Imperial interests in Mongolia and give a quicker service to Europe over a line entirely controlled by the Chinese to the border.

It is proposed to establish division headquarters at Hsining, Altaishan, Chahar, Kobdo, Ili and Urga and concentrate all the forces at these points. The development and training of these forces have been very slow for the reason that it was difficult to secure instructors, but recently the Mongols are taking more interest and the scheme as outlined will no doubt soon be greatly advanced. Arrangements have been completed to instal a system of wireless connecting Mongolia and Chinese Turkestan with the land wires in Kansu to bring these outlying regions of the Empire in closer touch with Peking and encourage interest in imperial affairs.

*Tibet.*—A similar program to that in Mongolia is being carried out with regard to Tibet. The colonizing of the territory is being encouraged, a railway connecting Szechuan and Tibet proposed, and telegraph communication established. With the successful outcome of the recent punitive expedition consisting of 25,000 men under the command of Chao Erh-feng, the Prince Regent has turned his attention to establishing Chinese sovereignty more firmly in that outpost. The conversion of Tibet into a province or the establishment of three provinces to be organized out of Tibet and Szechuan has been proposed and is receiving the consideration of the government. A successor to the Dalai Lama deposed by the Chinese forces has been ordered and great interest is being taken in the selection of a successor. Every effort will be made by the Central Government to reorganize Tibet so as to secure the co-operation and loyal support of the Tibetans in the development of a military force for frontier defence, and especially to resist the encroachments of Russia in that quarter.

The provincial authorities of Szechuan have always had a great deal of trouble with the border tribes and it was for this reason the recent expedition through to Tibet was undertaken to complete the subjugation of that territory. In connection with this campaign some reference has been made to the arsenal at Chengtu furnishing ordnance and ammunition to the forces upon their advance. A correspondent of the *North China Daily News* writing from Chengtu recently describes these works as employing 350 men and boys and the output 5,000 rounds of ammunition and four rifles of indifferent pattern daily. Describing the establishment the correspondent writes:

"The rifles appeared to be of an indifferent pattern and I noticed the bullets did not fit the cartridge cases closely and were plugged in every case with a slip of paper to make the lead bullet a fixture in the cartridge.

"There are three German employees, but we did not see any sign of them. They seem to be employed in the new works going up. The whole works had the usual Chinese stamp of slipshod, go-as-you-please style about them.

"I noticed an old 1894 pattern of American made Hotchkiss mountain gun taken to pieces and being slavishly imitated. I should imagine it would take them a fortnight to turn out one of these little weapons at double the cost of importing a new and up-to-date pattern.

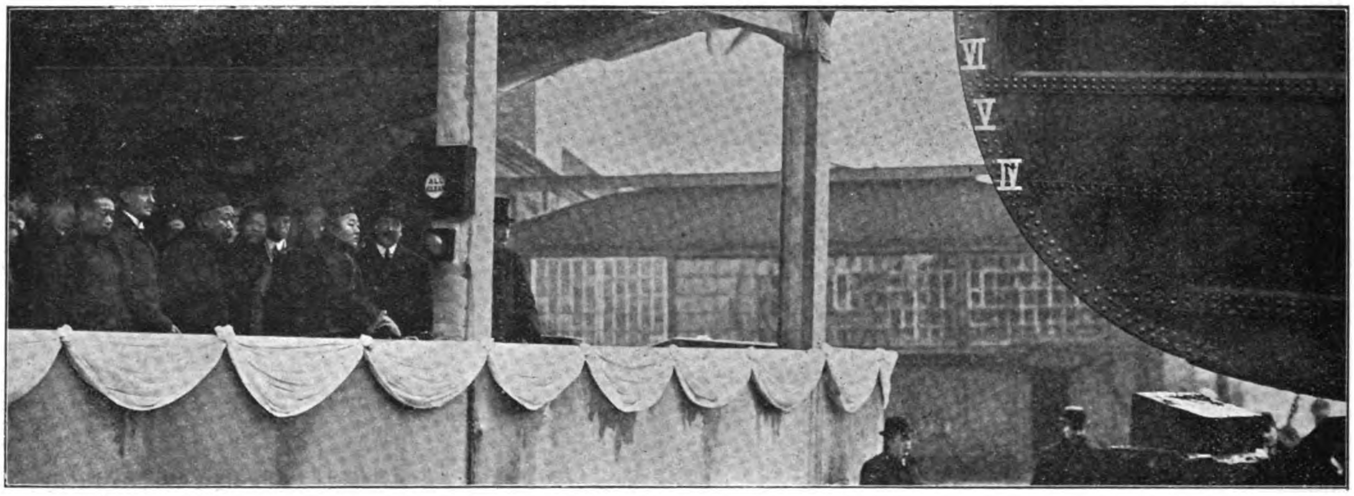
"I observed the lead, zinc and copper employed and learnt from a communicative foreman that the mixture was not good and that they were unable to prepare good cartridge cases; they gave me a sample.

"The most busy part of the establishment was the mint which was running full plant and time, and turning out over half a million copper coins of 10 and 20 cash per day. They are using zinc, copper (local and American) and lead in the production of the coins. The coin as far as one can judge is of a high standard compared with most of the coins turned out in China and in other provinces.

"The machinery was supplied by Germans, but comes largely from Manchester and Birmingham with a sprinkling from Germany. The new plant will deal largely with the manufacture of a German water-jacketted rapid-firing machine gun somewhat like a maxim. I saw the one specimen they had at the works, which, we were informed, they were going to imitate."

*Yunnan*—The building of the railway by the French to Yunnan fu has been slowly developing a situation, from the Chinese point of view, not unlike that in Manchuria. Native reports, received from time to time from that region, are to the effect that the French have scattered a large force of Annamites along the line of railway in Chinese territory for the purpose of creating dissatisfaction among the natives in the border provinces who are inclined to be revolutionary. These reports are no doubt exaggerated and as gun running has been a popular diversion of adventurers of every nation, it is not improbable that the

French are not by any means responsible for all the encouragement given these people. The provision for railway guards along the line is now the cause of much friction. In the meantime the Central Government is suspicious of French designs on Yunnan. This is the natural outcome of her experience in Manchuria and for the last two years Peking has been endeavoring to strengthen her defences in that province. The Viceroy was instructed to expend Tls. 2,000,000 supplied by the central government last year to defray the expenses of organizing and equipping the two new divisions allotted to that province and to construct a line of forts along the frontier. But the usual delay is noted in securing results. The present Viceroy governor to report that he is short the necessary funds to take care of the provincial military allotment. In every case an appeal for assistance from the imperial treasury has been refused and there is every indication that official heads will be lopped off for responsibility for failure to provide funds for this purpose. It may be said that this attitude on the part of the Prince Regent is having its effect and as time passes the prospect for more loyal support from the provincial officials in financing the setting up of their quota of soldiers is brighter. It may be expected, however, that not a few examples will be made of viceroys and governors who fail to appreciate what Peking expects of them before the disposition on the part of to devise ways and means, have made a careful study of the subject. The financing of the project offers many discouragements, but as the plans assume shape there seems to be no lack of increased interest in the project. It might be said that it has been decided to encourage the training of a large number of students abroad and a nucleus for the big naval scheme had been arranged which will consist of cruisers, gunboats and torpedoers, the construction of battleships being deferred until later. Exhaustive plans have been under consideration for the establishment of naval bases, docks, etc., and of naval academies. So far little progress has been made in actual accomplishment.



VISIT OF THE IMPERIAL CHINESE NAVAL COMMISSION TO THE CLYDEBANK SHIPYARD OF MESSRS. JOHN BROWN & CO., LTD.
H. I. H. PRINCE TSAI-HSUN ABOUT TO LAUNCH H. M. S. FOXHOUND.

is moving very slowly. A huge fortified camp in course of construction about seven miles to the north-west of the city of Yunnanfu is after all not to be built just yet. Mountains of bricks and stones are lying about, but the Viceroy will not yet sanction further expenditure. The divisions have been ordered for service in Yunnan and these soldiers will be assisted by provincial forces. The local authorities of Yunnan in policing territory along the border fear conflict with French interests for the reason that the support from Peking in maintaining Chinese authority on the Yunnan border is about as unsatisfactory at the present time as in the Eastern Provinces.

Indeed, on every hand, the Chinese Government finds itself seriously handicapped and humiliated for the reason that her military equipment is far too limited to inspire respect. That this condition will not continue indefinitely there is little doubt. China is awakening, and every time she suffers a fresh humiliation, she renews her efforts in the direction of comprehensive military organization. And she has now the benefit of a growing military spirit among a large majority of the people, where formerly, her situation seemed hopeless.

*Finances.*—The Imperial Treasury will maintain the Board of War, General Staff, the Imperial Guard, military academies, arsenals and six divisions of the National Army allotted to the Metropolitan Provinces. This represents Tls. 90,000,000 in the budget of which Tls. 25,000,000 will be utilized for uniforms and equipment and an equal sum for arsenals. The balance of the thirty-six divisions are to be provided by the provinces at an estimated expenditure of Tls. 60,000,000 or Tls. 2,000,000 to a division

The great obstacle in the way of carrying out the army program is the lack of control by the central government of the provincial finances. It is not unusual for the viceroy or these officials in many sections to plead poverty is overcome.

*Military Schools.*—There are a large number of graduates from foreign military schools whose services are being utilized in the training of China's future military leaders. These graduates were trained principally in Japan while many are graduates of French, German and American academies. It is stated that the class in Japan in 1908 numbered about 1,000. These graduates are serving as instructors in China's military schools, under the supervision of foreigners, mainly German and Japanese experts. Heretofore, the principal military schools included one each at Tientsin, Wuchang and Nanking. A new one is being built at Taiyuan-fu in Shensi and the establishment of elementary and intermediate schools in the provinces are included in the new program. The Staff College at Peking will provide special courses of training in the different arms of the service and the students will be selected from among the provincial candidates by competitive examination. German drill and Japanese organization prevail throughout the course in all the schools.

*Arsenals.*—The manufacture of ordnance has been undertaken at the different provincial arsenals. Small arms were turned out at the rate of 50,000 per annum from Wuchang, Te Chou, Canton, Shanghai, Chengtu and Kaifeng Fu. The program provides for the abolishment of the provincial arsenals and the establishment of three large Imperial plants located in the North, Center and South. Of these, the Hanyang Arsenal is the only one in operation. The sites for the other two have been chosen several times but no definite action was taken.

## CHINA'S NAVY

The progress made in the reorganization of the Chinese Navy has not been rapid, but there is evidence that the Commissioners, appointed

It will be remembered that an Imperial Decree issued from Peking, July 15, 1909, directed attention to the investment of the authority of supreme command of the Army and Navy in the Prince Regent and concluded with the appointment of Prince Tsai Hsun and Admiral Sah Chen-ping as commissioners to devise means for the Navy Organization. Later, these commissioners made a tour of Europe making study of naval organization and administration.

At this time the existing navy consisted of the Peiyang Squadron having for its bases Chefoo or Taku, the Nanyang Squadron at Nanking or Shanghai, and the Kuangtun Squadron at Canton. These squadrons represented a strength of twenty serviceable vessels, the maximum not being more than 4,000 tons. There were, however, 16 torpedoers, ten river gunboats, twenty-one coast patrols and four training ships carried on the Navy list.

The original program decided upon provided that the first year was to be devoted to reorganize the present force and to place orders for second, third and fourth class cruisers. Improvements were to be planned after careful inspection of the naval bases in the Northern, Southern, Fukien and Kuangtung divisions, and the facilities of the naval schools at Tientsin, Nanking and in Fukien and Kuangtung were to be increased.

It was not until March this year that a definite program for building new warships was announced. On March 24th a contract was given Messrs. Vicker's Sons and Maxim, Burrow-in-Furness, for the construction of an armored cruiser of 2,400 tons, to cost £400,000. Then came the announcement that the first squadron to be built would consist of two cruisers, two defence vessels, two dispatch boats, four torpedo boat destroyers and six torpedoers. Peking has been visited by representatives of almost every large dockyard in the world seeking

a contract, but the order to the British firm is the only one officially announced.

In October, 1909, the announcement was made from Peking that the navy commissioners had decided that orders would be placed for one each of first class, second class and third class cruisers, two training ships, two torpedoers and one gunboat and would cover the expansion of naval strength for a period of four years.

In February this year, upon the return of the commissioners from their tour of the world, they presented a report of their observations to the Prince Regent and recommended that one of the essential steps towards successful reorganizaton was to send an ample number of students abroad for the necessary training so that as the navy was increased, competent officers would be available to handle it. This seems to have met with general endorsement by the Grand Councilors and the arrangement made by the commissioners while in Europe to send 100 students each to England, France, and Germany for naval training was concurred in. The report was also circulated from Peking that Prince Tsai Hsun had recommended that China's new navy should be modelled after the navies of Great Britain and Germany. This, however, is not conclusive as there is every reason to believe that, as in the reorganization of the army, the Japanese model will be followed generally.

Apparently the delay in placing orders for the construction of new vessels is due to the lack of funds available to carry out even the program for the first period. This program, it is estimated, will mean an expenditure of Tls. 18,000,000. Of this Tls. 1,500,000 goes to the construction of an Imperial Naval base at Hsiangshan and the balance to the construction of the first squadron which is to form the nucleus of the new navy. Divided into yearly allotments it means an annual outlay of Tls. 4,125,000. To this must be added Tls. 2,000,000 for maintenance. Every effort has been made to interest the viceroys and governors in providing the provincial share of this expense and it cannot be said that there is any more enthusiasm over raising the money for the naval appropriations than characterized the interest taken in securing military funds.

In September of last year when the circular note was sent to the different provinces asking for assistance, it is reported that comparatively few replies were received. An encouraging telegram from Hangchow was to the effect that the governor there had undertaken to raise Tls. 1,000,000 and added to this came the news that the provincial treasurer, salt comptroller, grain intendent and the police bureau had agreed to jointly contribute Tls. 230,000 annually. The Hangchow, Ningpo and Wenchow customs were also reported to have subscribed Tis. 20,000 for the same period.

In October, the Ministry of Finance advised the Throne that it was impossible to raise the Tls. 18,000,000, and reported that altogether with the maximum estimate of help expected from the provinces the Ministry was Tls. 2,000,000 short. A curtailment of the original program was suggested, but this was turned down. Subscriptions were encouraged from Chinese subjects residing in foreign countries with, it is reported, some success. It now appears, according to a later report, that while the viceroys and governors have pledged themselves to contribute their respective shares of the Tls. 18,000,000, only Tls. 500,000 have been remitted to the Ministry of Finance. The apparent failure to realize promptly the initial expenses of an extended naval program offers limited encouragement for the carrying out of the more expensive undertakings to follow if China is to have a modern navy. There is prospect, however, that the patriotism of the Chinese will be more deeply stirred as the pur-

PRINCE TSAI-HSUN'S VISIT TO THE VULCAN SHIPBUILDING WORKS AT STETTIN, GERMANY. GENERAL YIN CHANG, THE NEWLY APPOINTED WAR MINISTER FOR CHINA, IS AT THE PRINCE'S RIGHT IN THE LAST PICTURE

pose of the government is discussed and with a well defined purpose on the part of the Prince Regent to assume more and more control of provincial affairs including finance, there is hope for better results. The impression is gathered from many Chinese sources that the success in financing this project will be measured by the success met in establishing a central representative government for the Empire.

Commenting on this phase of the reorganization movement, the *Pall Mall Gazette* says: "It was not without substantial reason that the Chinese Naval Commissioners, who recently visited England and one or two other European lands, adopted a strictly non-committal attitude when asked if orders were shortly to be placed by China. They lacked the power of the purse. The naval mission on its return will find that, while the idea of a new and powerful Chinese navy still holds the popular imagination, the Ministers at Peking are hopelessly asking each other where the money for its construction is to come from." Indeed, it would seem that the *Gazette* was not far from the truth.

The reorganization of the Haichuan Naval Department which was in existence from some time before the war with Japan with its office at Tientsin is to be undertaken, and the office changed to Woosung or Shanghai. Other naval departments are to be established at Fukien, Canton, Kiangsu, and Chekiang. The viceroys and governors of these provinces will have the official title of Associate Naval Commissioners. The old dockyards at Foochow are to be extended and a central naval machine shop located at Tientsin. Regarding Chinese naval schools, provision has been made for the organization of these institutions in the different provinces from provincial funds. One school will be supported by Chihli, Shantung and Manchurian provinces and another by the provinces of Kiangsu, Chekiang, Fukien and Kuang. An academy and special schools are to be established by the Navy Department in Peking.

A Chinese student, being educated in Great Britain, writing for the *China Gazette*, expresses the opinion that there is little prospect for the New Navy or progress in other lines until a representative government is established at Peking and the Empire is more united in purpose. He is very pessimistic over the situation in China. He believes that despite all the pronouncements, edicts, declarations of reform, etc., that China is no better, if not worse, than she was at the time of the Boxer trouble. The finances have been going from bad to worse and the nation is getting deeper and deeper into debt every year and the people find it harder to make a livelihood. He places the cause of failure to the disorganization of the Government and the corruptions of the mandarins, all of which he terms a "rotten foundation" upon which to build any real and lasting structure of reformed government or administration. "China," he writes, "has had enough theorizing and preaching, and now she needs men to put their thoughtful words into active action. What China wants today is 'deeds, not words.'"

With reference to the organization of the navy he points to the necessity of this force to maintain the integrity of the empire and ensure not only its peace, but the protection of its commercial rights. He regards the expenditure as a very small insurance premium on the interests protected. He then proceeds to review the history of naval development throughout the world and especially of the relative value of the Chinese and Japanese navies previous to the war between the two countries, followed by the decadence of the former and the rapid growth of the latter after its close. The victory of the Japanese he ascribes to the fact that they gave every indication that they grasped the essential features of success at sea by providing modern equipment. They had rapid fire ordnance and their vessels had greater speed than the Chinese. On the other hand, the hopeless inefficiency and corruption and the general disorganization of the government, together with the out of date equipment of the fleet, brought to the Chinese terrible disaster.

The *Gazette* correspondent, however, places the importance of reform in the government before attempting the successful reorganization of army or navy. In closing a very strong presentation of China's present unhappy position, he says:

"Regarding the needs of a modern navy, such as building of ships, their designs as well as their special materials, dockyards, and stations, and the provisions which should be sufficiently made for their maintenance and upkeep, and for the training of men and officials to handle them, these are matters which require serious consideration, great experience, and special study. But above all there is the most difficult question of 'how to find the necessary funds' in order to commence this naval re-organization. This question can never be satisfactorily answered until a representative Government is established."

According to the *Navy League Annual* for 1909, the Chinese Navy's strength included but six protected cruisers and two torpedo gunboats as follows:

(1) Protected Cruisers.

Haichi (1898) 4,300 tons. I.H.P. 17,000 = 24 knots. Armament: 2 8-in q.f., 10 4.7-in. q.f., 22 small q.f. and 5 torpedo tubes. Coal capacity 300 tons.

Haishen (1898) and Hai-Yung (1897) 2,903 tons. I.H.P. 8,000 = 20 knots. Armament: 3 6-in. q.f., 8 4-in. q. f., 12 small q.f., and 3 torpedo tubes. Coal capacity 500 tons.

Nanting (1883), Nanshin (1884) and Hi-Ying (1889) 2,165 tons. I.H.P. 2,400 = 15.18 knots. Armament: 2 8-in. q.f., 8 4.7-in. q.f., 9 machine, and torpedo tube. Coal capacity 600 tons.

(2) Torpedo Gunboats.

Kien-Wei (1900) and Kien-Gnan (1899), 861 tons. I.H.P. 7,000 = 22.25 knots. Armament: 1 3.9-in. q.f., 9 small q.f., and 2 torpedo tubes. Coal capacity 360 tons.

Besides the above on the list may be found a training ship, a corvette and eight torpedo boats in the First Cruiser fleet and nine gunboats, a transport and two corvettes in the Second Yangtzekiang Fleet. The *China Tribune* publishes the following list:

THE FIRST CRUISER FLEET.

| *Class* | *Name* | *Tonnage* | *Horse Power.* |
|---|---|---|---|
| Cruiser | Haich'i | 4,300 | 17,000 |
| Same | Haijung | 2,950 | 7,500 |
| Same | Haich'ou | 2,950 | 7,500 |
| Same | Haich'en | 2,950 | 7,500 |
| Training ship | Tungchi | 1,900 | 1,600 |
| Torpedo Gun Boat | Feiying | 850 | 5,500 |
| Corvette | Paomin | 1,500 | 1,900 |
| 8 Torpedo Boats. | | | |

THE SECOND YANGTZEKIANG FLEET.

| | | | |
|---|---|---|---|
| Gun Boat | Chienan | 571 | 7,000 |
| Same | Chienwei | 871 | 7,000 |
| Corvette | Wanch'en | 1,905 | 2,400 |
| Same | Chingching | 2,100 | 2,400 |
| Gun Boat | Ts'etien | 400 | 66 |
| Transport | Tengleichou | 1,285 | 152 |
| Gun Boat | Chiangyuan | 525 | 920 |
| Same | Chianghsiang | 525 | 920 |
| Same | Chiangli | 525 | 920 |
| Same | Chiangchen | 525 | 920 |
| Same | Ch'utung | 740 | 1,350 |
| Same | Ch'uchien | 750 | 1,350 |
| Same | Ch'ukung | 445 | 1,350 |
| Same | Ch'ukuan | 740 | 1,350 |

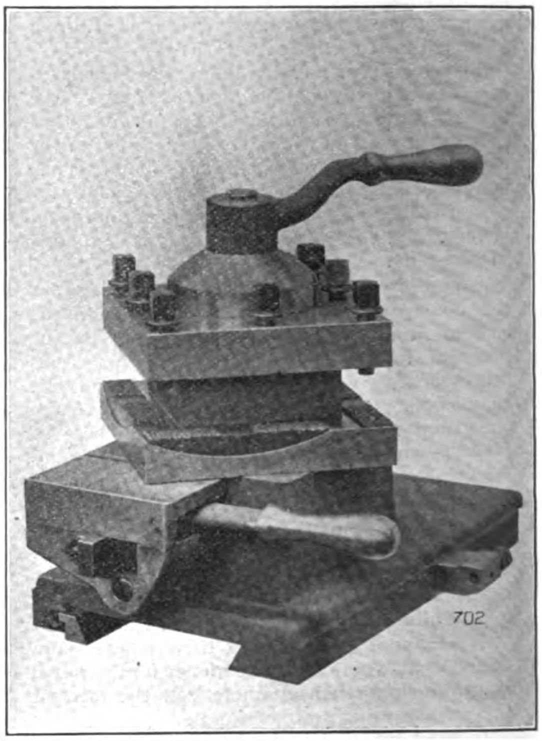
## NEW TURRET TOOL POST

The Lodge & Shipley Machine Tool Company, Cincinnati, U. S. A., has recently designed a new turret tool post, illustrated in the accompanying half tone. This turret tool post is made for each size of Lodge & Shipley lathe and is a great time saver on certain jobs where the parts manufactured permit the use of several tools.

The principal features of this new design are that the tools can be set diagonally as well as square with the cross slide, thus giving eight positions of the turret; that each tool is clamped well forward of the center so as to give the firmest possible support; and that the clamping of the binder lever does not appreciably change the position of the tool.

The lower block of this attachment is interchangeable with the compound rest slide and is fitted to the carriage dove tail by taper gib. A vertical stud is secured in this base and passes up through the turret to carry the binder lever at its top.

The tool post is of steel. Each one of the four tools rests upon a serrated and hardened bolster or rocker, against which it is held by two hardened cap screws. By rocking the bolster in its curved seat, adjustment in the height of the point of the tool can easily be made. When the screws are tightened the position




NEW TURRET TOOL POST.

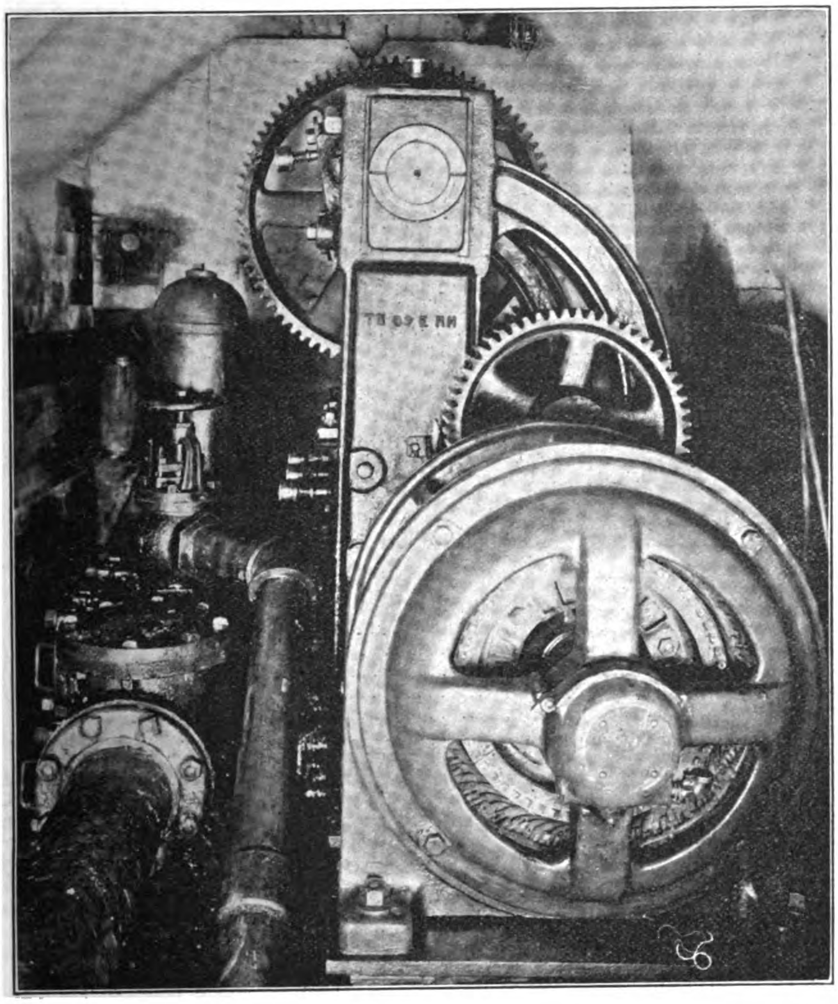
of the tool cannot change because before the bolster could slip, one or the other of the cap screws would have to be loosened to allow one of the bolster to rise.

The turret revolves on a taper bearing concentric with the vertical stud, but does not touch the stud. A bushing is slipped over the stud and this bush is tapered to fit the bearing of the turret. An adjusting nut is threaded to the stud and bears against the upper end of the taper bushing; by tightening this nut the bushing can be so pushed down that there will be no play in the bearing and yet the turret will revolve freely. The large collar between the binding lever and the turret covers the end of the taper bushing and its adjusting nut so that no chips can get into the bearing. The taper bearing is placed with large diameter at the top thus the turret is at all times held to the horizontal bearing against the lower block and when the binder is clamped the position of the turret and tools remains unchanged.

The turret is exactly located in any one of the eight positions by a locking bolt dropping into notches of an index ring. The locking bolt is withdrawn by the handle at the front of the lower block. Take-up for the bearing of the locking bolt is provided by a taper gib. A coil spring holds the locking bolt against the index ring so that it will at once drop into the notch when the proper point is reached. A screw shown in the illustration just beneath the end of the locking bolt provides adjustment for tension of this coil spring.

## REMARKABLE PERFORMANCE OF INDUCTION MOTOR

The performance of apparatus under exceptional circumstances reveals the weak or strong points in its design, and its suitability for the service for which it has been installed. Due to the fact that reliable manufacturers design their apparatus with a large factor of safety, remarkable records are sometimes made.



20 HP. THREE PHASE, 220 VOLT INDUCTION MOTOR DRIVING PUMP IN MINES AT RICHMOND FURNACE, MASS., INSTALLED BY THE GENERAL ELECTRIC COMPANY.

A 20 H. P., 3 phase, 220 volt standard induction motor made by the General Electric Company recently demonstrated the ability of the standard motors manufactured by this company to operate successfully under the trying conditions met with in mines where the air is very damp, without their being totally inclosed. This is of great importance, as thorough ventilation of the motor is absolutely necessary due to the high temperatures which prevail in mines. This motor is geared to a mine pump, located at the bottom of the shaft at the mines of the Richmond Iron Works, Richmond Furnace, Mass., and is installed in a chamber where the air is always very damp and moisture is continually dripping from the roof timbers. It is protected from this water by a piece of tarred paper tacked above it, so as to conduct the water away.

During a heavy thaw last January the surface water broke in on one of the upper levels and flooded the mine. The water rose so rapidly that the electric pump was soon under water, the top of the motor being two feet below the surface. Under such circumstances it was imperative that the pump should continue in operation as long as possible, and so it was not shut down. It continued to operate perfectly and at the end of two hours, during the whole of which time the motor was submerged under water, it had pumped itself clear of water. It was then stopped only long enough to clean the dirt and chips from around the rotor and put oil in the bearings, and then was started up again. This pump has been running about 20 hours a day ever since and the motor has apparently suffered no injury from its unusual experience.

## EXTENSION OF THE KOWLOON DOCKS OF THE HONGKONG & WHAMPOA DOCK COMPANY, LTD.

The enterprise of The Hongkong & Whampoa Dock, Co., Ltd., in keeping pace with the modern developments along shipbuilding lines, was recently demonstrated by the completion of the extension of their No. One Dock which increased the dimensions from 576 feet to 700 feet in length with a breadth at the entrance of 86 feet on top and 70 feet at the bottom and a depth of 30 feet over the sill at Ordinary Spring Tides. This extension provides for the accommodation of the largest vessels entering the Port of Hongkong and represents several years' activity in construction under most adverse conditions, the cutting being made from solid granite and involving the removal of one side of the hill at Kowloon to complete the work.

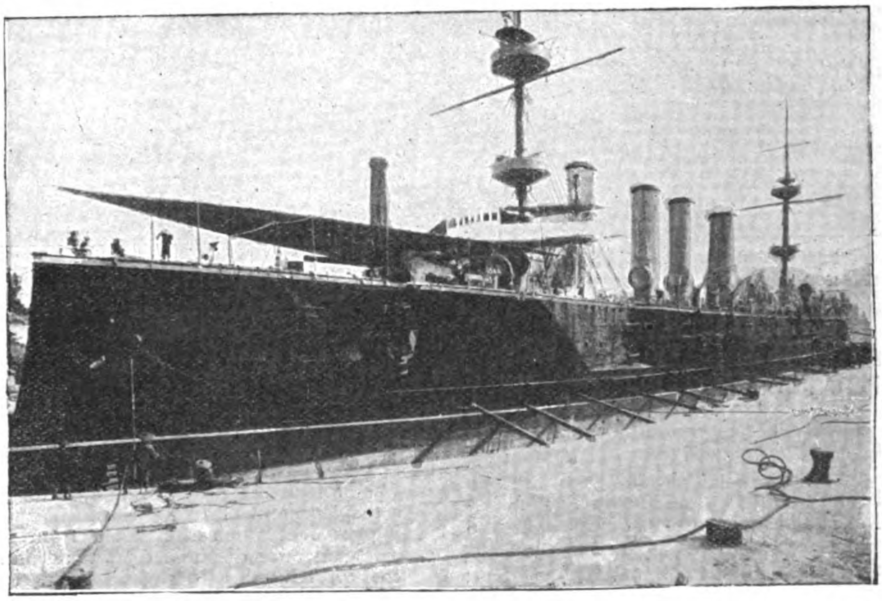
But the extension of the dock is not the only feature in increased activity that has characterized the policy of the present management. Other departments of industrial adventure have been added to meet the growing demands of the colony along general engineering and structural lines. The splendidly equipped Kowloon and Cosmopolitan Workshops have been receiving special attention and today in the Far East no more complete and up-to-date plant may be found for the undertaking of all classes of construction and general engineering, iron and steel forgings, iron, brass and bronze castings, and electrical work of all descriptions.

Particular reference should be made at this time to the railway supply department in which particular attention is being paid to the construction of railway passenger carriages. Indeed the Hongkong & Whampoa Dock Company, Ltd., has the distinction of undertaking the first contract for the construction of passenger carriages in the colony of Hongkong, which was placed with the company by the Kowloon-Canton Railway for the equipment of the British and Chinese sections, a large order and one that will no doubt be followed by many others from different parts of China as the railway building program progresses.

Another modern department of this company that furthers home industry in the colony is that devoted to the construction of main and auxiliary machinery and boilers for marine and land purposes. The advantages of these shops may be appreciated in view of the fact that the usual delay in procuring the above product from the home market is overcome and much time saved in addition to the advantage of more satisfactory service and facilities for prompt installation, etc.

At the several establishments involved in the extensive plant of the company the construction of steamboats, tugs, paddle and stern wheelers, launches, etc., comprise a large part of its operations and the general character of the output has brought the company an enviable reputation throughout the world. And in this department, the company keeps abreast of the times as may be gathered from the special attention paid to the construction of high speed motor boats for passenger and cargo traffic the demand for which has been steadily increasing during recent years.

With the opening of the railway to Canton the trade of the port will be given a marked impetus and with improved transportation facilities the docks will be in a better position than ever to participate in the colony's prosperity. The location of the extensive plant in the vicinity of the site for the general terminus at Kowloon and the introduction of sidings will place the Hongkong Whampoa Dock Co., Ltd., in a most desirable position to develop increased trade and serve its patrons with dispatch.



H. M. S. POWERFUL IN NO. 1 DOCK OF THE HONGKONG AND WHAMPOA DOCK COMPANY, KOWLOON.

# CONTRACTING NEWS

CONTRACTS AWARDED.—Municipality of Shanghai.—Electrical Material.—The following is the announcement of the *Gazette*:

Of the tenders received for items 1-6 of Notification No. 2020, the lowest tender for the first five items, that of Messrs. Johnson & Phillips is accepted, for the sum of £2,035.2.6 c.i.f.

The lowest complete tender for item No. 6,900 High Candle Power Metallic Filament Lamps, is that of the Siemens Schuckertwerke for £241.5*s*, and acceptance is approved in accordance with the Engineer's recommendation.

The remaining tenders are as follows:—

(*a*) *Nos. 1-5, Tenders for Electric Cable, Junction Boxes, etc.*

| | £ | | |
|---|---|---|---|
| Jardine, Matheson & Co. | 2,190 | 19 | 6 |
| Dodwell & Co. | 2,287 | 17 | 6 |
| Shanghai Electric & Asbestos Co. | 2,415 | 10 | 8 |
| Brighten, Malcolm & Co. | 2,424 | 10 | 0 |
| Inniss & Riddle | 2,442 | 8 | 0 |
| Collins & Co. | 2,450 | 5 | 0 |
| Von During, Wibel & Co. | 2,534 | 1 | 4 |
| Arnhold, Karberg & Co. | 2,536 | 0 | 0 |
| British Insulated & Helsby Cables | 2,561 | 9 | 6 |
| Siemens Schuckertwerke | 2,672 | 13 | 4 |
| W. T. Henley's Telegraph Works | 2,707 | 10 | 0 |
| Dickeson, Jones & Co. | 2,726 | 15 | 0 |

(*b*) *No. 6 High Candle Power Metallic Filament Lamps.*

| | £ | | |
|---|---|---|---|
| Arnhold, Karberg & Co. | 245 | 0 | 0 |
| Brighten, Malcolm & Co. | 260 | 0 | 0 |
| Dickeson, Jones & Co. | 313 | 0 | 0 |
| Jardine, Matheson & Co. | 374 | 8 | 0 |
| Dodwell & Co. | 398 | 5 | 9 |
| S'hai Electric & Asbestos Co. | 401 | 6 | 0 |
| Inniss & Riddle | 407 | 0 | 0 |
| Collins & Co. | 508 | 10 | 0 |
| British Insulated & Helsby Cables (part only) | 148 | 0 | 0 |

FIRE-HOSE.—Of the tenders received for the annual supply of fire hose for the Fire Brigade in accordance with Notification No. 2028, it is decided, says the *Gazette*, upon the recommendation of the Chief Engineer, to accept the tender of Messrs. Shewan, Tomes & Co., £319, for hose manufactured by Messrs. Shand, Mason & Co., London The remaining tenderers were:

| NAME. | MANUFACTURERS | 2000 ft. *Rubber lined fire hose* | | 2025 *Cotton fire hose* | |
|---|---|---|---|---|---|
| | | £ | *s. d.* | £ | *s. d* |
| Melchers & Co | Lewall, Freiberg | 114 | 0.0 | 58 | 8.0 |
| Dodwell & Co | — | 150 | 0.0 | 60 | 10.0 |
| Frazar & Co | Fleming, Birkby, etc | 188 | 18.4 | 68 | 18.2 |
| Collins & Co | do | 189 | 0.0 | 70 | 0.0 |
| China & Japan Trading Co | — | 194 | 0.0 | 97 | 0.0 |
| Arnhold, Karberg & Co | — | 195 | 0.0 | 72 | 2.0 |
| Melchers & Co | Meiswinkel, Essen | 209 | 0.0 | 50 | 10.0 |
| Rose, Downs and Thompson | — | 221 | 8.0 | 62 | 8.0 |
| Rose, Downs and Thompson | — | — | | 53 | 16.0 |
| Andersen, Meyer & Co | — | 242 | 0.0 | 119 | 15.0 |
| Ilbert & Co | — | 257 | 10.0 | 76 | 14.6 |
| Evans & Co | Rob Roy | 228 | 0.0 | 116 | 0.0 |
| Westphal, King & Ramsay | Diamond Rubber Co. & Bentham Lanc | 292 | 15.8 | 66 | 15.0 |
| Inniss and Riddle | Geo. Angus & Co | 336 | 0.0 | 91 | 10.0 |
| Westphal, King & Ramsay | Diamond Rubber Co. & Bentham, Lanc | 373 | 13.6 | 70 | 10.0 |
| Dunlop Rubber Co | Dunlop Rubber Co | 383 | 10.0 | 81 | 10.0 |
| Dickeson, Jones & Co | — | 390 | 0.0 | 85 | 1.0 |
| Melchers & Co | Merryweather | 434 | 0.0 | 134 | 16.0 |
| Anderson, Meyer & Co | do. | 455 | 0.0 | 145 | 10.0 |
| Markt & Co., Ltd., (Shanghai) | Eureka | G. | $1,550 | G. | $410 |
| Fobes & Co | American Rubber Mfg. Co | Tls. | 2,400 | Tls | 621 |
| Shanghai Electric & Asbestos Co. | Bowers Rubber Works | | 2,580 | | 871 |
| J. W. Gande & Co | Gorham Rubber Co | | 2,995 | | 936 |
| Chang Dah Yuen | — | | 3,000 | | 350 |
| Fearon, Daniel & Co | Gorham Rubber Co | | 3,030 | | 845 |
| Sam. McGregor & Co | Willcox & Co., etc | £275 0.0 | | | |
| Jardine, Matheson & Co | N. Brit. Rubber Co | 421 0.0 | | | |
| Jardine, Matheson & Co | Merryweather | 465 0.0 | | | |
| Scott, Harding & Co | No. 1 | Tls. 2,307 | | | |
| Scott, Harding & Co | No. 2 | 2,379 | | | |
| Scott, Harding & Co | No. 3 | 2,404 | | | |
| Scott, Harding & Co | No. 4 | 2,543 | | | |
| Scott, Harding & Co | No. 5 | 2,606 | | | |

BUREAU OF SUPPLY, MANILA.—40,000 barrels of cement.—Awarded Messrs. W. H. Anderson & Company, Green Island.—Bids published previously..

U. S. ENGINEER CORPS, U. S. A.—5,500 windows and doors for concrete buildings on Corregidor Fortifications.—Awarded the Cadwallader-Gibson Company. Approximately ₱45,000.

BUREAU OF PUBLIC WORKS.—Construction of bridge of reinforced concrete of two 80-foot spans over Tanjay River, Oriental Negros. Bids submitted, F. D. Harden, ₱29,470, and A. Luraschi, ₱23,700. These amounts do not include the supply of structural steel.

PROPOSALS INVITED.—Electricity Department, Municipality of Shanghai.—The Council is prepared to receive tenders for the supply and delivery of:—

(1) 5 miles 7-10 Standard wire gauge hard drawn bare copper cable.

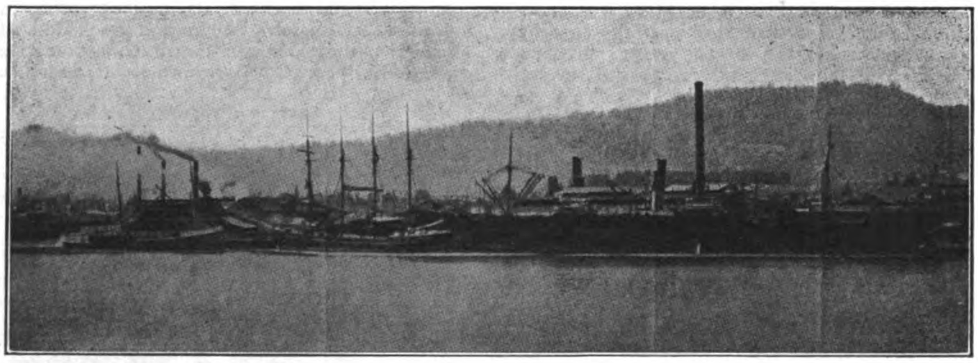
(2) 5 miles ⅛ Standard wire gauge hard drawn bare copper cable.

(3) 1 mile 7-6 Standard wire gauge hard drawn bare copper cable.

(4) 1000 single pole, 50 ampere, 200 volt, house service fuse boxes.

Detailed specifications and further information may be obtained upon application to the Electrical Engineer, Mr. T. H. U. Aldridge, Electricity Works, Fearon Road. A charge of Tls. 5 will be made for specification which will be returned upon receipt of a bona fide tender.

Sealed tenders in duplicate will be received by the undersigned not later than noon on Wednesday, September 14, and should be marked "Tender for Electrical Material."



Reproduced from *The Timberland*.

BRITISH STEAMER "KNIGHT OF THE GARTER" RECEIVING CARGO AT THE EASTERN AND WESTERN LUMBER COMPANY.

## LARGEST LUMBER CARGO EVER SET AFLOAT DISPATCHED TO CHINA

Undoubtedly the largest lumber cargo ever set afloat, was that carried from Portland on the British steamship Knight of the Garter, which cleared from this port June 9, says *The Timberland* of Portland, Oregon. The cargo consisted of 5,010,608 feet, and was supplied by the Eastern & Western Lumber Co., 3,546,215 feet; Clark & Wilson Lumber Co., 1,083,345 feet; Peninsula Lumber Co., 381,048 feet, the total being 5,010,608 feet. The cargo is consigned to Taku Bar and Shanghai, China. The Knight of the Garter is 475 feet long, 54 feet 10 inches beam, 33 feet 10 inches depth of hold. She was built in Glasgow, Scotland, in 1892, and has a displacement of 10,600 tons. She was drawing 25 feet when she sailed from Portland. The cargo was dispatched by the China Import & Export Lumber Co

PROPOSALS FOR FRESH VEGETABLES.—Headquarters Philippines Division, Office Chief Commissary, Manila. Sealed proposals in triplicate, subject to usual conditions, will be received at this office until 11 o'clock a. m., October 1, 1910, at which time and place they will be opened in the presence of attending bidders, for furnishing and delivering to the Subsistence Department, U. S. Army, Manila, P. I., such quantities of fresh potatoes and onions as may be required from time to time during period from November 1, 1910, to February 28, 1911. About 600,000 pounds potatoes and 120,000 pounds onions will be required per month. Each proposal must be accompanied with a sample of about ten pounds each of the potatoes and onions which it is proposed to furnish, also with a bidder's guaranty in the amount of $5,000.00 or with certified check for that amount on a bank of approved standing in Manila. The bidder to whom award is made will be required to give bond the penalty of which will be fixed by the Chief Commissary. Blank forms, specifications, and all necessary information can be obtained on application to this office. Envelopes containing proposals should be marked "Proposals for Fresh Vegetables

# FAR EASTERN RAILWAY NEWS

INDO-CHINA RAILWAYS.—The *Saigon Opinion* is quoted as stating that the colony needs, first of all, drainage and irrigation as the most urgent railways have already been constructed, that the only line necessary at present would be one extending to the navigable stretch of the Mekong below Vientine, and that all future railway schemes should receive the most careful study before proceeding to construction. This comment had reference to the new loan of 200,000,000 francs for public works.

RAILWAY BRIDGES FOR SIAM.—The contract for the steel work of fifteen bridges for the Royal Siamese Railways has been placed with the Cleveland Bridge and Engineering Company of Darlington. These bridges are to be erected along the line of the Siamese section of the Peninsular Railway, included in the scheme proposed in the recent Anglo-Siamese treaty. The spans of these bridges will run from 30 to 250 meters and the contract covers the most mportant bridge construction.

to be opened October 1, 1910," and addressed to the under signed.—D. L. Brainard, Lieut. Col., D. C. G., U. S. Army, Chief Coms'ry.

BUREAU OF CONSTABULARY.—Office of the Chief Supply Officer.--Sealed proposals in triplicate, subject to the usual conditions, will be received at the office of the Chief Supply Officer, Bureau of Constabulary, Old Oriente Building, Manila, until ten a. m., October 15, 1910, and then opened in the presence of attending bidders, for furnishing the Bureau of Constabulary the following articles:

1,800 Mosquito bars.

3,000 Shoulder knots.

4,000 Water-proof capes and hoods, coats or ponchos.

Bids must be accompanied by samples.

Time for delivery to be stated on proposal and to be considered in awarding contract.

Samples of mosquito bars and shoulder knots may be seen and blank proposals obtained at the office of the Property Officer, Bureau of Constabulary, Old Oriente Building, Manila.

BUREAU OF PUBLIC WORKS, MANILA.—Cebu Water Works.—Sealed bids will be received by the Director of Public Works until 11:00 a. m., November 15, 1910, and thereupon opened, for the furnishing of material for and the construction of Osmeña Water Works System for the Municipality of Cebu, Cebu, Philippine Islands.

The proposed works will consist of a circular reinforced concrete dam with intake appurtenances and value chamber; a concrete spillway; a 4,000,000 gallon reservoir in excavation; a 14" and 16" main pipe line six and a half kilometers long; a distribution system 4" to 14" diameter pipe twenty-one (21) kilometer long; and the necessary gates, valves, valve boxes, fire hydrants, and appurtenances.

Specifications, general plans, and blank forms of proposal may be obtained at the office of the Director of Public Works, Manila, P. I., and from the office of the District Engineer, Cebu, P. I.

Each proposal must be accompanied by a certified check for 10% of the amount of the bid drawn by the bidder on a local bank and made payable to the Insular Treasurer as a guaranty that the bidder, if awarded the contract. will, after due notification, promptly enter into contract and furnish acceptable bond in the sum of twenty (20) per cent or a certified check for ten (10) per cent of the sum total of the contract price for the faithful performance of the work. The right is reserved to reject any and all bids or waive informalities.

CLARENCE W. HUBBELL.
*Acting Director of Public Works.*

THE YELLOW RIVER BRIDGE AT TSINANFU.—The construction of this important bridge of the Tientsin-Pukow Railway is progressing very satisfactorily and it is expected that the work will be completed the latter part of next year. The contract was let to the Augsburg-Nurnberg Machine Manufacturing Company who have a contract covering 100 additional steel bridges of 60 tons each and in the development of the construction work electricity has been utilized most successfully. This large undertaking has involved a large expenditure for plant including transportation facilities and equipment for the manufacture of concrete piles which is one of the features of this construction. Some idea of the bridge may be gathered from the fact that there are twelve piers in all the three center ones supporting sections 128, 165 and 128 meters in length and the balance averaging 91 meter spans. The bridge will be 9.40 meters in width.

THE TAITO RAILWAY.—The Japanese Government has provided the sum of yen 4,250,000 for the early construction of the branch railway at this point.

NEW APPARATUS FOR DISINFECTING CARS.—The Consular Reports quote the Consular Agent of Sorau respecting a new process in vogue on the Prussian State Railways as follows·

"The former method of cleaning cars infected with vermin cost $85 per car, while by the new method whole railway trains can be cleaned in a few hours at a cost of $8.50 per carriage. The new apparatus consists of a steel tube laid parallel on the ground and having a diameter of 16 feet 4 inches and a length of 75 feet 4 inches. When a carriage is to be disinfected all doors and windows are opened and the carriage pushed into the apparatus. The tube is then closed and made air-tight and the air heated by means of steam pipes to 122° F. Then, as the temperature in the tube is constantly increased, the air is pumped out until the atmospheric pressure falls to 13¾ pounds per square inch. This draws all life from the vermin, also from the spawn under the cushions or behind the woodwork, and their death made absolutely certain. When it is desired to cleanse the carriage not only of vermin, but also of infectious germs, an evaporator filled with formalin is placed in the center of the tube."

SUPPLY OF RAILWAY MATERIALS FOR INDIA.—According to *Railways*, Messrs. Burn and Company, Limited, Howrah, recently booked for the Eastern Bengal State Railway, 40 girders, 30 feet and 40 feet spans and a terminal pontoon for the dredger *Alexandra*. Messrs. Ransomes and Rapier, Limited, Ipswich, have supplied the Assam-Bengal Railway with turning gear for cranes, manufactured at their Waterside Iron Works; and Messrs. Hayward, Tyler and Company, Limited, spare parts for a fire pump; and Messrs. Pooley and Sons, Limited, spare parts for weighbridges. Messrs. W. T. Avery, Limited, the well-known makers of weighing apparatus had an order for the supply of weighing machines. Messrs. Gillanders, Arbuthnot and Company, Calcutta, have the order of the East Indian Railway for the supply of 12,000 cwts. of round Padouk timber logs and 3,120 cwts. of square Padouk timber logs. This colonial timber is very suitable for railway carriage and wagon building.

Messrs. Jessop and Company, Limited, Calcutta, supplied a Tangye's duplex centre packed Ram type steam pump (20 inches by 8 inches by 10 inches) to the North-Western State Railway. Messrs. Gillanders Arbuthnot and Company have supplied the Eastern Bengal State Railway with 14,000 cwts. of Indian Teak Squares. The Engineer-in-Chief, Lower Ganges Bridge Project, Sara, has given a further order to Messrs. Burn and Company, Howrah, for the construction and supply of six 100-ton cargo boats. Messrs. Burn and Company have obtained an order to supply the South Indian Railway Company with fuur bridges. The East Indian Railway Company have placed with them the order for iron and steel work complete for two 30-ton gantries, including one winch for each gantry, for Mankatha station, Dinapore district. Messrs. Steel, Peech and Tozer, Limited, had an order from the South Indian Railway for the supply of steel axles for rolling stock, and Messrs. Taylor Brothers, Limited, had a large order for the supply of steel tyres for rolling stock. Messrs. Jas. Reid and Company, Limited, had a contract for the supply of pig-iron to this Railway. The Bengal Iron and Steel Company, Limited, we may mention casually, are manufacturers of large quantities of "Pig" at their Barakur Iron Works, and supply the East Indian Railway and also other Indian lines. Messrs. Lawrence, Scott and Company, Limited, Norwich, had an order for the supply of electric motors and cables to the East Indian Railway, Electrical Department. Mr. W. B. Peat, Receiver and Manager for the Debenture Holders of Messrs. Robert Stephenson and Company, Limited, Darlington, had a large order for the supply of spare or duplicate parts for locomotive engines to the East Indian Railway. The British Insulated and Helsby Cables, Limited, Prescot, Lancashire, have supplied a quantity of electric fittings to the same Railway. Messrs. Callenders Cable and Construction Company, Limited, had quite a large order for the supply to this line of insulated cable and bar wire. Messrs. Dorman Long and Company, Limited, the Middlesborough Structural Engineers, etc., have in hand the rolling of 5,563 tons of bull-headed steel rails, while the Patent Shaft and Axletree Company, Limited, had the order for the supply of the steel fishplates, and the Anderston Foundry Company, Limited, the steel fishbolts and nuts. Messrs. P. and W. Maclellan, Limited, Cannon Street, London, E. C., and Clutha Ironworks, Glasgow, are supplying the under-frames and other ironwork, etc., for 120 covered goods wagons to the East Indian Railway. The Gloucester Railway Carriage and Wagon Company, Limited, are supplying the same railway with the ironwork, etc., for two sheep vans, ten general service brake vans, and six mineral brake vans. Messrs. B. and S. Massey, Limited, Openshaw, Manchester, were supplying the Bengal-Nagpur Railway with a piston and rod for a two-ton steam hammer, and Messrs. Nasmyth, Wilson and Company, Limited, Bridgewater Foundry, Patricroft (near Manchester), a piston and rod for a ten-ton steam hammer. Messrs. Allen and Everett and Sons, Limited, have supplied the same railway with 2,172 brass boiler tubes for locomotive engines. The Patent Axlebox and Foundry Company, Limited, had an order for the supply of 8,500 axleboxes for rolling stock and the Monk Bridge steel and Iron Company, Limited, for the supply of 500 steel tyres for rolling stock. The Birmingham Railway Carriage and Wagon Company, Limited, have a large order for the supply of duplicate parts for carriage and wagon stock, and Messrs. Steel, Peech and Tozer, Limited, for the supply of 71 steel axles to the same railway.

KOREAN RAILWAY CONSTRUCTION.—Director Ohya of the Railway Bureau at Yongson states that the surveying work, both on the Honam and the Seoul-Wonson lines, was begun last April and is now in progress. On the latter line the survey has reached 30 miles from Seoul and of this, final location had been reported for a distance of over 20 miles or to Euichongpu and work is underway on the construction. Of the Honam line there are over 20 miles ready for the actual work. Little engineering difficulties are presented on this latter line, but the Seoul-Wonsan would pass through some difficult mountainous country. It is reported that the Antung-Kekwang section of the Antung-Mukden (50 miles) will be finished in November. Of the 34 miles of the Pongyang-Chinampo line 24 miles have been laid with steel and sixteen miles were operating and it is expected that the formal opening will take place in November. The Director announced that, by the end of the year 1912, it was expected that the lines of the peninsula and the Antung-Mukden would be completed and through service established between Mukden and Tokyo thus connecting Tokyo direct with Paris.

MONEY FOR THE TIENTSIN-PUKOW.—The President of the Board of Posts and Communications has advised that he will appropriate the necessary money from the profits of the Imperial Railways of North China to cover the cost of construction on the Northern Section until the supplementary loan may be arranged.

RUSSO-JAPANESE FREIGHT TRAFFIC TREATY.—Councillor Kinoshita, of the Japanese Railway Board, is at present in St. Petersburg attending the negotiations for the conclusion of freight agreement in connection with their respective railway interests.

RAILWAY FROM KALGAN TO JEHOL.—A Peking dispatch is to the effect that Tls. 3,000,000 have been raised by the Viceroy of Chihli and the Railway Board to defray the cost of this line.

KIANGSI RAILWAY.—The section of this railway, 16 miles between Kuikiang to Wanyiwan, was opened to traffic July 18.

MANILA-LOS BANOS RAILWAY.—This branch of the Manila Railway Company was opened to traffic on August 6th and now the run brings the residents of the capital within two hours of the famous medicinal springs. The construction of the main line southward through Batangas is progressing favorably.

THE BAGUIO RAILWAY.—Extensive surveys are under way for the purpose of locating a desirable line to connect Baguio with the Manila Railway Northern Trunk line. Several lines are being run from the west coast to the Summer capital and it is not improbable that an electric road will be installed.

EXPORT OF JAPANESE RAILWAY SLEEPERS.—During the last three years Japan has exported to China, Mexico, Hongkong, England, Canada and the United States over yen 13,000,000 worth of railway sleepers, and in 1909 the value was represented by about yen 9,000,000.

THE KOWLOON-CANTON RAILWAY.—It is expected that this line will be opened for traffic next month. Early this month the first locomotive passed over the section between Hunghom and Yaumati and the permanent way was declared complete to the frontier from Kowloon. The *China Mail* states that the purpose of opening the line at this stage has beed deemed advisable in order to work up the light local traffic, and to transport material for the Chinese section if required, all of which will help in earning revenue. For a time, however, the complete rolling stock will not be available. This is because of the delay in the supply from Home of the iron framework for the passenger cars, which was to have been delivered in the early part of the year but which as yet has not arrived in the Colony. The bodies of the cars have been built at the Hongkong and Whampoa Docks and are quite ready for the addition of the necessary iron-work. By reason of this delay it will not be possible for the proper cars to be used at the opening or for some time afterwards. Accordingly, ten four-wheeled covered goods wagons have been converted into temporary passenger coaches, eight being fitted as third class cars and the other two as first class. These will be in use until the other coaches are in readiness. These latter coaches will be of most approved style. They will number eight altogether and will be of what is known as the corridor bogey type, illuminated with electric light, and possessing every convenience. They will be of the following classes:—One First Clas to seat 32 passengers: one First and Second Classs, combined, to seat 24 First Class and 44 Second Class passengers: one Second Class, to seat 82 passengers: three Third Class, to seat 120 passengers each: one Third Class, Luggage and Brake, to seat 34 passengers: one Third class, Mail and Brake, to seat 28 passengers. The total weight on the rails of each coach will be 44 tons. The goods wagons will number about 4 and will be of varying carrying capacity, ranging from 30 tons to 15 tons.

Altogether, says the *Mail*, there will be four locomotives used on the section, though the two smaller of these will not be available until the beginning of next year, as they are being used in construction work by Messrs. Leigh and Orange up to that time. The other two are magnificent types of engines, each having a total weight of 89 tons 15 cwt. They are six-wheeled coupled sidetank engines and will prove especially valuable for the peculiarities of the line over which they are to run, enabling the complete run through to be made without the necessity of stopping to take in water.

As to the Kowloon terminus, the present station near the Ferry wharf is purely a temporary one, as also is the one nearing completion at Hunghom. These are thought to be all that is necessary for the time, probably until the opening of the Chinese section. It was, in the early days, intended to have the terminal station on Kowloon Point, but the proposal of Mr. Lindsey, the present Chief Resident Engineer, to have it located at Hunghom has now received the approval of the Secretary of State. So in the course of time more substantial station buildings will be erected at Hunghom, which will serve the native population well and also be equally convenient for those residing on the Hongkong side, for a pier will be constructed adjoining the station and passengers will be conveyed across the harbor.

THE CHINCHOW-AIGUN RAILWAY.—According to Peking dispatches to the *Standard* China is willing to modify the original plans for the construction of this railway so that it will not proceed farther than Taonanfu and thus remove the proposal outside the zone of Russian contention with the understanding, however, that this modification must not be interpreted as a recognition of Russian claims. No official announcement has been made in support of this report as cabled.

F. M. S. RAILWAYS FOR 1909.—The total receipts for the year, according to the annual report, amount to $5,377,409, an increase of $119,510 over the previous year and exceeding the estimate by $157,409. The total amount expended including amount to capital account for railways during the year amounted to $7,469,342.

THE YUNNAN-KWEICHOW RAILWAY.—The Viceroy of Yunnan and the Governor of Kweichow have petitioned the Board of Communications for a foreign loan to construct a line between these two points and urge an early preliminary survey. These officials state in their petition that they do not believe it possible for the merchants of the provinces interested to raise the necessary funds.

INDIAN BRANCH RAILWAYS.—The Indian Government has provided new regulations covering the extension of the railway system and of the approval for guarantee of interest on new branches proposed:

(1) There will in future be no published list of approved projects, but any project may be submitted for approval at any time and will be considered at once upon its merits. (2) The interest which Government is prepared to guarantee upon approved projects is raised from 3 to 3½ per cent. (3) In the case of Company branch lines connecting with State worked lines, the Company will be allowed to annex the profits up to 5 per cent. instead, as heretofore, up to 3½ per cent, before dividing the surplus with Government. (4) In view of these concessions, a proviso is added that the terms for the construction and working of the proposed branch line by the main line administrations must be arranged in advance to the satisfaction of the Government of India. (5) Administration expenses during construction in the case of branch lines worked by the main line administration, may be charged as part of the working expenses to be met out of the percentage taken by the working agency until the 5 per cent is earned to the branch line company, instead of, as heretofore, until 3½ per cent has been earned. (6) A compulsory purchase clause is added, enabling Government to acquire a branch line on one year's notice at any time on the payment of twenty-five times average net earnings (excluding payments on account of guarantee or rebate) during the three preceding years or of 115 per cent of the capital expenditure on the line whichever is the greater. The ordinary purchase clause is also modified to make it that Government cannot acquire under it until thirty years have elapsed instead of as previously twenty years.

RAILWAY SUPPLY SHOPS AT YONGSAN.—Under the direction of the Railway Board of Korea, these shops are now engaged in turning out a large order for freight and passenger cars for the railways to supplement those ordered from the United States. There are now 28 cars including passenger and baggage and mail coaches and 100 freight cars being constructed at this factory, and it is expected they will be turned over to the authorities by the end of the year.

CARRIAGES FOR THE TIENTSIN-PUKOW RAILWAY.—The *China Critic* announces the arrival at Taku of two first class carriages which will be put on the service to Te Chow.

SOUTHERN SECTION TIENTSIN-PUKOW RAILWAY.—According to the correspondent of the Shanghai *Mercury*, 100 miles of this section should be completed by the end of the year. He reports that most of the bridges for 65 miles are completed and track laid for 45 miles. With the completion of a difficult cutting through the Pukow hills there will be 65 miles of continuous track. Two engines and 40 cars are engaged in construction work on the Pukow end. Progress is reported on the permanent bridge crossing the Sha-ho. The *Mercury* also publishes a description of the Pukow Railway shops which, under the direction of Mr. J. Alston, are equipped to keep the rolling stock in condition. At the present time the rolling stock includes ten main line engines consisting of two American locomotives manufactured by Baldwins and eight others manufactured by the North British Locomotive Company, Ltd. There are two ballasting and earthwork locomotives, American Baldwins, and four locomotives bought from Tungshan works for earthworks. There are also 100 highsided wagons, built by Hurst Neilson, Motherwell, and 50 low sided wagons built by the Midland Railway Carriage and Wagon Company, 50 low sided wagons built in Belgium and 50 covered goods wagons built in England. There are also:—100 Mud-Wagons, 80 low sided wagons and 20 flat wagons, built at Tungshan. The machine, fitting, smith and present erecting shops consist of four 42 feet spans 200 feet long. The locomotive store is of three 25 feet spans, 100 feet long. Foundry and Boiler House one span 42 feet by 200 feet long. Carriage shed one span 40 feet by 200 feet long.

The total length of the Southern section of the Tientsin Pukow Railway is 236½ miles. There are 200 bridges and 377 culverts. The length of bridging per mile—Lightest district—61.7 linear feet per mile; Heaviest district—96.3 linear feet per mile. Thus the average throughout is 74 linear feet per mile. Total amount of earth work is 3,430,000 fong, while the total amount of rockwork is 299,800 fong.

JAPANESE PRIVATE RAILWAYS.—The Railway Board reports the filing of applications by the promoters of 50 projects this year including 36 referring to the Kobe-Kyoto district.

MANILA RAILWAY BONDS.—An issue of ₱4,000,000 of government guaranteed bonds by the Manila Railway Company has been authorized by the Philippine government to cover the expenditure of construction of new lines.

OSAKA AND KOBE RAILWAY IMPROVEMENTS.—Plans have been submitted to the Railway Board involving the estimated expenditure of yen 8,000,000 for the rebuilding of the Osaka depot and the construction of an elevated railway through Kobe. Additional funds will be secured by the sale of land.

HONAN-TUNKWAN RAILWAY.—The survey of the first section of this line is reported complete and work has commenced from Loyang.

# PHILIPPINE MINING NEWS

PARACALE MINING DISTRICT.—Reports from Paracale indicate that the present season will be marked by greater activity than ever. The unconfirmed report that the Paracale Gold Dredging Company's new dredge has been taking out about 200 ounces a week since operations began created quite a stir in Manila mining circles. Previous to the collapse of the old dredge, which was not adapted in every respect to the ground, the company made a record for a while of from 500 to 600 ounces a month. The new dredge is reported to save a greater percentage of the values and to meet conditions satisfactorily.

The Philippine Dredging Company has at least started its pioneer work with the Risdon dredge on the Malaiguit River and the first run of 18 hours is reported to have resulted in winning 15 ounces of the metal. If this is confirmed the company, after many discouragements, has entered upon a bright future. The ground where this dredge is working is reported to average very high values.

The Stanley Dredge suffered an accident in the breaking of a shaft this month, but reported 120 ounces as the result of three weeks work. The repairs will not entail much delay.

The Tumbago Mining Company was recently reorganized and the capitalization increased to $1,000,000 under the laws of the State of Nevada. This company is proceeding with development work.

---

THROUGH SLEEPER SERVICE TO EUROPE.—The *Japan Mail* announces that the International Sleeping Car and Express Trains Company and the East China Railway Company have arrived at an agreement that during ten years commencing on the 1st July (of the Julian calendar), 1910, the Sleeping Car Company shall make use of the Railway Company's carriages and wagons (twelve each of the first-class and second-class carriages, a dining-car, and five wagons), and that the changing of trains shall be conducted at Irkutsk. The connection with the Japanese railways being settled, through tickets will be issued on and after the 1st July (of the Julian calendar) this year at the principal stations in Japan.

JAPANESE RAILWAY RECEIPTS.—The June report gives yen 160,473 as the passenger receipts and yen 3,193,550 the revenue from freight for June, which is an increase in passenger traffic receipts of yen 201,285 and 164,000 for freight compared with June, 1909.

CANTON-AMOY RAILWAY.—The Army Advisory Board has recommended that this line be converted into a military line.

HAKODATE RAILWAYS.—In his report for 1909 Mr. Vice-Consul H. G. Partlett says: "The length of the railway lines in the Hokkaido at the end of 1909 was 645 miles and 7 chains (single track). During the year the following construction work was done: The track was doubled on the section between Zenibako and Iwamizawa, a distance of 36 miles and 49 chains. The construction work (embankments, bridges, culverts, etc.), on the Fukagawa-Rumoe section, a distance of 31 miles, was almost completed. The balance of the work will be carried out in 1910, and the line should be opened to traffic in the autumn of that year. The same will probably be the case with a section of 48 miles on the Ikeda-Abashiri line. On the Teshio line the work of construction was started in the autumn of 1909. It is also generally reported that a short line of rail will presently be laid between Hakodate and the cement works at Kamiiso, 7 miles or more down the bay. The survey of the route was completed at the close of the year. On the main island a short line of rail was opened in November connecting Aomori with some of the villages in the Imperial forest preserves lying on the western horn of the bay. The gauge is only 2 ft. 5 in., and traffic will be confined to the transport of lumber, for which purpose three Baldwin engines of 10 tons and a "Lima" engine have been purchased."

The Guamas Placer Mining Company completed its organization this month and capitalized at ₱500,000. The officers elected were: President, D. M. Carman; Vice-President, Francisco Ortigas; Treasurer, E. B. Soriano, and Secretary, G. C. Sellner. The directors are E. B. Soriano, A. Burlingame Johnson and Francisco Ortigas. All the stock has been subscribed. The property owned by this company is reported one of the richest in the Paracale District.

No announcement has been made with regard to the San Mauricio property or the operations of the mil.

Mr. Karl Swensen, instructor of geology in the Chinese university at Nanking, paid a visit to the Philippines last month and had an opportunity of examining the properties in Benguet and Paracale. He also made an examination of the Paracale Extension claims while in Paracale.

THE BENGUET MINING DISTRICT.—The Benguet Consolidated has been retimbering and cleaning up the dump since last writing and 72 ounces are reported. This plant is not operating to its fullest capacity on account of the progress of repairs covering the damage sustained last fall.

There is great activity on all the different properties in development work and visitors to Baguio are greeted by continual blasting throughout the mineral belt.

The Headquarters plant is on the ground and will be installed as soon as the expert arrives. The development work on the Headquarters group has shown very encouraging results.

The Major group is also a center of activity and preparations are being made to instal the plant ordered by the owners.

There is a movement on foot in the Benguet region to amalgamate all the different interests and it is said to be progressing favorably. The promoters believe that by centralizing the administration and establishing a large central plant the cost of production would be greatly reduced and tend to more effective development.

NUEVA ECIJA PLACER.—It is understood that representatives of American capital have become interested in a few options on the placer fields in this province and that tests have proven very satisfactory. There are about 2,000 acres involved in one group in which Judge A. D. Gibbs, M. A. Clarke, and Messrs. Squires Brothers are interested that is reported to be included in these options. These fields are an extension of the old placers at Gapan that have been worked for many years by antiquated methods. The properties recently staked incline towards the mountain regions of the east coast.

LEPANTO MINING NEWS.—The big copper at Mancayan is attracting some attention and we understand that the Lepanto Mining Company that holds the greater part of the territory under options have proceeded to reorganization and an increase of capital for the purpose of engaging in development work on a more extensive scale. British capital is said to be interested.

The Suyoc gold deposits lying near the Mancayan copper are said to warrant the expenditure to develop them. For years gold has been taken out of the placers, but no organized effort has been made to secure the largest measure of results for the outlay made by the different owners. Indeed it would appear that the Mancayan and Suyoc districts have suffered from lack of organized effort among the owners.

TAYABAS OIL FIELDS.—There is little to report in the way of development work. The drilling plant has been installed but the operations have been subjected to many delays. The owners of the property and the holding syndicate are sanguine of success.

BATAN COAL MINES.—The Bureau of Navigation has undertaken the construction of coal bunkers to have a capacity sufficient to meet the needs of the Insular Government. They will be located convenient to the mines and be equipped with the most modern appliances for loading and to have a capacity in this respect of handling 2,000 tons a day.

The Federal coal mines on Batan islands that were being developed by the U. S. Army have been shut down as a result of the unsatisfactory tests reported. It is the purpose of the Federal Government to later make a complete survey of the whole island to secure accurate data as to the formations there before anything further is attempted.

THE MASBATE DISTRICT.—We are informed that the Philippine Exploration Company has decided to forfeit its option on the Eastern properties. No official announcement has been made by the company as to the status of the property, but it is believed that the measure of development work did not warrant the purchase price named in the option.

PUBLICATIONS HAVING REFERENCE TO MINING IN THE PHILIPPINES.—In the recent review of mining in the Philippines by Mr. Warren D. Smith, Chief of the Division of Mines, Bureau of Science, the following list of references was published:

References to copper deposits of the Philippines:

1862. Santos, José Maria. Informe sobre las minas de cobre de las rancherías de Mancayan, Suyoc, Bumucan y Agbao en el distrito de Lepanto. Press of the College of Santo Tomás, Manila (1862), 72.

1876. Centeno y Garcia José. Memoria geológico-minera de las Islas Filipinas. *Boletín de la Comisión del Mapa Geológico de España, Madrid* (1876), 3, (Copper, 221-226).

1881. Hernandez, Antonio. Report on copper in the district of Lepanto (in Spanish). *Revista Minera*, Madrid (1881), 2, 112-118.

1901. Becker, G. F. Report on the geology of the Philippine Islands. *U. S. G. S., 21st Ann. Rept.* (1901), pt. 3, 493-614.

(Summary of geologic knowledge up to the time of American occupation. Copper, 584-590).

Rinne. Kupfereiche Sande in Malaguitgebiet bei Paracale. *Ztschr. f. prak. Geol.* (1901), 387.

1905. Eveland, A. J. A preliminary reconnaissance of the Mancayan-Suyoc mineral region, Lepanto, P. I. Bull. No. 4, Mining Bureau, Manila (1905).

(A study of the geology of the region, with abstracts from earlier reports. A detailed map of the district on a scale of 1:4,800 is published as Bull. No. 5 of the Mining Bureau.)

McCaskey, H. D. Fifth annual report of the Mining Bureau for the year ending August 31, 1904. Manila (1905). (Copper, 29-30).

McCaskey, H. D. Sixth annual report of the Chief of the Mining Bureau for the year ended August 31, 1905. Manila (1905). (Copper, 16.)

1906. Lehlbach, L. Mancayan-Suyoc mines and Abra River placers, Lepanto-Bontoc. *Far Eastern Rev.* (1906), 3, 168-170.

1907. Chase, T. Minerals in the Philippines *Eng. & Min. Journal* (1907), 83, 852-853.

Goodman, M. Island of Marinduque. *Far Eastern Rev.* (1907), 3, 365-366.

Goodman, . M. Metallic mineral resources. *Far Eastern Rev.* (1907), 4, 12.

1908. Goodman, M. Metallic mineral resources. *The Mineral Resources of the Philippine Islands.* Bureau of Science, Manila (1908). (Copper, 23-24).

Silver and lead:

1886. Abella y Casariego, Enrique. Rápida descripción, física, geológica y minera de la Isla de Cebú. Madrid, Tello (1886). (Reference to galena, 146.)

1901. Becker, G. F. Report on the geology of the Philippine Islands. *U. S. G. S., 21st Ann. Rept.* (1901), pt. 3, 493-614. (Silver, 590-591.)

1905. McCaskey, H. D. Fifth annual report of the Mining Bureau for the year ending August 31, 1904. Manila (1905). (Lead and Silver, 30) 1907.

Goodman, M. Island of Marinduque. *Far Eastern Rev.* (1907) 3, 365-366.

Iron Deposits:

1903. McCaskey, H. D. Report on a geological reconnaissance of the iron region of Angat, Bulacan. Bull. No. 3. Mining Bureau, Manila (1903).

# FAR EASTERN ENGINEERING, CONSTRUCTION, COMMERCIAL AND FINANCIAL NEWS

## ELECTRIC RAILWAYS, LIGHT, POWER, TELEGRAPHS, TELEPHONES, AIRSHIP, ETC.

CHINESE TELEGRAPH LINES.—The proposed expenditure of Tls. 600,000 for the extension of the land lines in Shantung, Shansi, Honan and Kwangtung has been abandoned for the present on account of lack of funds.

BRENNAN'S MONORAIL IN ALASKA.—An American syndicate has undertaken the construction of a line 100 miles in length from the Matas-Matamiska coal fields towards Fairbanks within a year. It is estimated that the necessary track can be laid at a cost not to exceed $3,000 a mile. It is the purpose of the syndicate to extend its operations covering the different points in the territory should the operations prove satisfactory.

THE PERFECT ORIENTAL POSTMAN.—The *N. C. Daily News* publishes a copy of "Rules for Daily Conduct" issued by the Japanese Director of the Communication Bureau at Tokyo to the officers and employes of the Post, Telegraph and Telephone Exchange offices:

"(1) Work earnestly and soberly, with all your might. (2) Rely not upon to-morrow; without fail do to-day the work which should be done to-day. (3) In your daily intercourse be whole-hearted and free; do not fail in discharging all obligations toward friends; be careful not to be a trouble to other people. (4) Carefully observe all rules; be punctual; keep all promises; return borrowed money and other articles at the fixed time. (5) Forget not kind deeds; delay not to visit people who show favors, or write to them, or visit their graves after death. (6) Be kind to all; be sympathetic to those in trouble; be kind and helpful to the sick. (7) Always consider yourself as in limited circumstances; let it be a fixed principle to be simple and frugal; overcoming self and suppressing all passions, endeavour to save money. (8) Since life is the seed of all achievement, guard your health and keep a strong body. (9) Be careful of yourself even when alone; morning and evening turn your thoughts inward. (10) Frequently engage in innocent sports and seek to be happy in your daily life. Since the above ten rules should never be forgotten for a moment, let us together endeavour to put them into practice in our daily life and work."

JAPANESE ELECTRIC ENTERPRISE AT FUSAN.—A project is on foot promoted by Japanese capitalists to establish a company at this point for the purpose of operating an electric light and power plant and to operate an electric tramway.

INDO-CHINA WIRELESS.—The postal department of the colony has been authorized to establish stations at Saigon and Hanoi, each with sufficient radius to carry messages between the two points, a distance of approximately 950 miles.

TELEPHONE SERVICE FOR CHINKIANG.—The apparatus for the installation of an exchange has arrived at this city.

HONGKONG ELECTRIC TRAMWAY COMPANY REDUCES CAPITAL.—At the recent meeting in London the capital of this company was reduced from £325,000 to £81,250 so as to conform to the actual assets of the company. The name was changed from the Electric Traction Company of Hongkong to the Hongkong Tramway Company and it is expected with the elimination losses from unstable currency substantial dividends would be paid on this capitalization.

HYDRO-ELECTRIC AMALGAMATION.—The Tokyo press announces the amalgamation of the different interests holding concessions on the Kinugawa River. There are three principal concessions, but the Kinugawa and the Anglo-Japanese companies have agreed to amalgamate and leave the third concessionaire out. The completion of the amalgamation was expected concluded this month.

PACIFIC WIRELESS.—Consul Dreher, of Tahita, states in a report that former plans for developing the wireless system in the Southern Pacific having failed to develop, the governments of Australia and New Zealand have decided to establish a system of wireless telegraphy which will be under their control and which will embrace various groups of British islands, including Ocean, of the Gilbert group, where the Pacific Phosphate Company, of London, owns immense deposits of high-grade phosphates. The installation of that system may put an end to the plans of the Pacific Radio-Telegraph Company, and if so, Tahiti will have to look elsewhere for a connection with the telegraphic systems of the world. Such a connection could be made with the station of the United Wireless Company, of San Francisco, at Honolulu. Some successful experiments have already been made at Tahiti in receiving messages from the American Steamship Mariposa.

PHILIPPINE WIRELESS.—The committee representing the U. S. Army, U. S. Navy, and Insular Government are busy completing plans for the installation of a system that will not only place Manila in touch with every section of the archipelago, but establish communication with all the principal points along the coast of Eastern Asia. Thorough tests are being made of the different radii before the sites for the stations are selected by survey vessels operating in conjunction. The Government will also maintain portable equipment for emergency. These will be sent immediately to any point where response cannot be secured and may be utilized in army maneuver or for police duty in outlying districts. The surveys have not been completed, but work is being pressed so that there will be the minimum of delay in establishing the service.

TAXICABS IN SINGAPORE.—According to reports from Singapore an enterprising firm has introduced three taxicabs in that city and charges 40 cents Straits Cur. per mile divided into quarters.

PENANG INVENTOR OF ELECTRIC INSULATION.—According to the *Pinang Gazette*, Mr. O. V. Thomas, of the Penang Electricity Department, has not only invented a compound for the insulation of electric wiring, but has tested it for a year and found it has many advantages over other insulating compounds. It is believed to be a valuable substitute for rubber in the tropics, particularly for house installations by reason of its inherent qualities.

ELECTRIC LIGHT FOR KWANCHENGTSU.—The South Manchuria Railway has been approached by the Russian residents at this point with a view to securing a supply of electric lighting from the Japanese Electric Light plant at Chang-chun.

(History of the iron industry and account of reconnaisance with analysis of ores, 62 pp., 1 map.)

1905. Goodman, M. Report on the Bulacan iron industry. Sixth annual report of the Chief of the Mining Bureau, Manila (1905), 48-56.
(Contains estimates of the cost of production and annual output).

McCaskey, H. D. Fifth annual report of the Mining Bureau for the year ending August 31, 1904. Manila (1905). (Iron, 29.)

Publications having reference to gold mining in the Philippines:

1874. Minard. Sur les gisements d'or de Philippines. *Bull. Soc. Geol. de France* (1874), 2, 403-406.

1876. Centeno y Garcia, José. Memoria geológico-minera de las Islas Filipinas. *Boletin de la Comision del Mapa Geológico de España.* Madrid (1876), 3 (Gold, 226-230).

1879. Abella y Casariego, Enrique. Memoria acerca de los criaderos auríferos del segundo distrito del departamento de Mindanao, Misamis. *Boletin de la Comisión del Mapa Geológico de España.* Madrid, Tello (1879), 49. 5 pls.

1883. Abella y Casariego, Enrique. Ligera reseña de la minería de las Islas Filipinas. Madrid, Tello (1883), 15 (Gold, 4-6).

1899. Day, D. T. Mineral resources of the Antilles, Hawaii, and the Philippines. *Eng. Mag.* (1899), 17, 242-251.

Hermann, R. Besuch im Golddistrict von Camarines Norte. *Globus*, Braunschweig, Vieweg (1899), 73, 11-12.

1901. Becker, G. F. Report on the geology of the Philippine Islands. *U. S. G. S., 21st Ann. Rep.* (1901), pt. III, 493-614 (Gold, 576-584).

Nichols, J. C. Notes on the Pigholugan and Pigtao gold region, Island of Mindanao. *Trans. Am. Inst. Min. Eng.* (1901), 31, 611-616.
(Describes occurrence of gold veins and placer deposits.)

1905. McCaskey, H. D. Fifth annual report of the Mining Bureau for the year ending August 31, 1904. Manila (1905).
(Gives summary of the mineral resources. Gold, 27-29.)

McCaskey, H. D. Sixth annual report of the Chief of the Mining Bureau for the year ended August 31, 1905. Manila (1905).
(Gives summary of developments of year, 16-17).

1906. Smith, W. D. Preliminary geological reconnaissance of the Loboo Mountains of Batangas Province. *Phil. Journal Sci.* (1906), 1, 617-631. 1 map.
(Study of geology of the region.)

1907. Chase, T. Minerals in the Philippines. *Eng. & Min. Journ.* (1907), 83, 852-853.

Eveland, A. J. Eastern Mining Company's Masbate workings. *Far Eastern Rev.* (1907), 3, 330-333.
(Detailed description by the superintendent, of the company's property and mining methods employed.)

Eveland, A. J. Notes on the geology and geography of the Baguio mineral district. *Phil. Journ. Sci. Sec. A.* (1907), 2, 207-233.
(A study of the general geology of the district with detailed map on scale of 1:24,000.)

Goodman, M. The Island of Marinduque. *Far Eastern Rev.* (1907), 3, 365-366.
(Notes on geology and gold prospects.)

Goodman, M. Metallic mineral resources. *Far Eastern Rev.* (1907), 4, 12.
(Summary of mining. Gold, 12-13).

1907. Goodman, M. Gold placers of Nueva Ecija. *Far Eastern Rev.* (1907), 4, 88.
(Notes on the geology and a description of operations.)

Goodman, M. History of placer mining in the Camarines. *Far Eastern Rev.* (1907), 4, 16.
(A short history of operations, with notes on the geology).

Ickis, H. M. Camarines gold fields. *Far Eastern Rev.* (1907), 4, 56-57.
(Notes on the geology and a description of operations.)

1908. Ferguson, H. G. The Aroroy Mining District, Masbate. *Far Eastern Rev.* (1908), 5, 56.
(Short summary of the geology and mining).

Goodman, M. Metallic mineral resources. *The Mineral Resources of the Philippine Islands.* Bureau of Science, Manila (1908), Gold, 22-23.
(Summary of mining work for the year 1907.)

Ickis, H. M. Mining and geologic notes on a portion of Northwestern Mindanao. *The Mineral Resources of the Philippine Islands.* Bureau of Science, Manila (1908), 28-31, with map.

Smith, W. D. Statistics of production. *The Mineral Resources of the Philippine Islands.* Bureau of Science, Manila (1908), 26.

Smith, W. D. Summary of the chief characteristics of Philippine ores. *The Mineral Resources of the Philippine Islands.* Bureau of Science, Manila, (1908), 33.

Besides the above papers, the FAR EASTERN REVIEW in its number for June, 1907 (vol. 4, No. 1), published reports of the operations of various mining companies, and during the past two years special correspondence relating to Philippine mining has appeared from time to time in the columns of the Mining and Scientific Press, (San Francisco) the Mining Journal (London), the Australian Mining Standard, the FAR EASTERN REVIEW, and the Philippines Free Press.

MANILA ELECTRIC COMPANY.—The *London and China Express* states that the shares of this corporation have been introduced on the London market at 62, but on demand rose to 64.5 The company, which was incorporated in 1903, has had a fairly successful career, 3 per cent. having been paid on the $5,000,000 of stock in issue for 1906 and 1907, while for 1908 and 1909 the rate was 4 per cent.

AEROPLANE TREATIES.—Washington and Mexico City are negotiating a treaty for the policing of the border with a view to preventing smuggling by means of aeroplanes.

AMERICAN MARINE WIRELESS ENFORCEMENT.—The law requiring the installation of wireless apparatus on every American vessel carrying a crew of fifty or passengers will go into effect July 1st, 1911.

UNDERGROUND TELEPHONE INSTALLATION AT PEKING.—The director of the telephone exchange at Peking has been instructed by the authorities to place all the wires of the system underground. The work will be started next month.

THE KEIHIN ELECTRIC RAILWAY COMPANY.—The profits for the half year amounted to 152,000 yen, out of which a dividend of 5% per annum was paid, yen 25,000 passed to reserve accounts; yen 10,000 expended in bonus to officials and yen 50,000 carried to next account.

VISAYAN ELECTRIC COMPANY.—The annual report of this company proved satisfactory to the shareholders and the following officers were elected: President, Mr. Albert Bryan; Vice-President, Mr. Martin M. Levering; Secretary, Mr. John Freeman; Mr. Albert Bryan temporarily acting. Members of Board of Directors, Mrs. Mary Bryan and Mr. Alfonso Z. Sy Cip.

JAPANESE ELECTRIC RAILWAYS.—Consul David F. Wilber tells of the opening of four new trolley lines in the Kobe district:

The four miles of the Kobe Electric Company's line (18 miles contemplated), opened in April, cost $1,500,000 gold. The dynamos, rails, poles, and air brakes are American, the running gear and machinery of cars English, and the word work of cars and over head wires Japanese make. The fare is 4½ cents, and the earnings for the first two weeks averaged $850 per day, and expenses $230 per day.

The Minomo-Arima Electric Railway Company's 18-mile line to mountain summer resorts, opened on March 15, cost $2,000,000. The rails, dynamos, boilers, and running gear and machinery of cars are American, the woodwork of cars and overhead wires Japanese make. The fare is 19 cents, and the 30 cars are earning $940 per day.

The Keihan Electric Railway, 28 miles long, was opened on April 15, connecting the important cities of Osaka and Kyoto, and running through other large towns. The $3,500,000 capital was expended and a debt of $1,250,000 contracted. The materials nearly all came from England, though the overhead wires came from the United States, while the woodwork of the cars was made in Japan. The fare for the entire distance is 20 cents, and the daily earnings for the first two weeks averaged $1,500. The company's 30 cars, with an 8-minute schedule, will be supplemented by 20 cars with a 5-minute schedule. The Keishin Electric Railway, from Kyoto to Otsu, and the Uji Electric Railway, from Fushimi to Uji, now building, will connect with this line.

The Hyogo Electric Railway opened its first section—from Hyogo to Suma—on March 15; it will extend 12 miles along the shore of the Inland Sea to Akashi. The material has chiefly come from the United States, the woodwork of the cars and the overhead wires being made in Japan.

The new electric railways just opened having paralleled the track of the Government Steam Railway from Kyoto, through Osaka and Kobe, as far as Suma, on the Inland Sea, the authorities of the Imperial Government Railways, in order to meet the competition, have lowered the third-class fare for this section of the line to the same amount as that charged by the electric railway companies. They are also going to spend a large sum of money in track improvement and will put on more and faster trains. This will cause greater danger and inconvenience at the level crossings in Kobe, and the Western Railway Administration Bureau will make the line through the city an elevated one.

## PUBLIC WORKS, DOCKS, BUILDINGS, ETC.

THE DAIREN WATERWORKS.—The announcement is made that, notwithstanding the delay attending the installation of the reservoir at Fushimidai, the city of Dairen may look for its completion next month and the water will be laid on at once.

WATER SUPPLY FOR THURSDAY ISLAND.—It is proposed by the Australian government to expend the sum of £10,000 in improving the water supply of this port in view of its increasing importance as a port of call.

THE MATTHEWS-DAVIDSON HARBOR SCHEME FOR MELBOURNE.—Two new piers have been recommended and a new dock and pier near the Victoria. The expenditure will total £873,000, of which £408,000 will be spent on the new pier, 105,000 dredging channels and £360,000 on the Victoria dock piers.

GOVERNMENT WORKS AT TAIHOKU.—Consul S. C. Reat, of Tamsui, states that the Japanese feel that they have fashioned and constructed a capital city for Formosa that far surpasses in architectural elegance the majority of cities in the Far East. The improvements under the direction of the Department of Public Works include the harnessing of the mountain streams to supply light and power and the pumping of water from the mountains by an excellent system of supply. The new government buildings numbering 20 show solidarity and compactness and the expenditure is believed by Mr. Reat to be justified, although they cost $2,867,495 gold. The new Government offices proposed built in the next five years will cost about $1,245,000 gold.

NEW PIER AT HOGART.—Consul Henry Baker writes that a new pier 700 feet long, 100 feet wide with a minimum depth of 36 feet alongside has been completed at this port at a cost of £26,000. On the pier is a shed 500 feet long by 44 feet wide.

THE NEW PARLIAMENT BUILDINGS AT TOKYO.—The committee in charge of the plans for the construction of this group of buildings at Tokyo has reported on a site covering an area of 150 acres for the buildings and an appropriate park which, with the buildings, are estimated to cost in the vicinity of yen 17,000,000. The buildings will include the 238 rooms with accommodation for 450 members. Besides the two houses the Horse Administration Bureau, the Chinese legation and the official residence of the Prime Minister will be included.

THE MONSTER BRIDGE OVER THE AMUR.—When the bridge over this river is completed at Khabarovsk, it will be the one of the largest structures of its kind in the world. Its length is 7,658 feet, divided into 22 spans ranging from 100 feet to 284 feet.

ZAMBOANGA FRANCHISE MUST BE ADVERTISED.—The application for a franchise by a local Zamboanga company to instal a gravity water supply and electric light and power plant has been acted upon by the Governor-General. He has decided that proposals should be invited and the franchise be given to the most satisfactory tender.

ILOILO RIVER NAVIGABLE.—As a result of the recent dredging vessels of 4,000 tons have proceeded up the river to the godowns for sugar and other cargo securing dispatch with great expedition.

NEW MANILA THEATER.—The Majestic is the name of a modern theater constructed on Calle Iris at a cost of ₱70,000.

NORMAL SCHOOL FOR MANILA.—The site of the new Normal school has been chosen on the new boulevard known as Taft Ave. It will be a three storey structure built of reinforced concrete with a frontage of 100 meters on the avenue and 70 meters on a new street to be laid out. It will have the shape of an L and of Spanish renaissance design.

PHILIPPINE IRRIGATION WORKS.—The committee recently approved the preliminary plans for the development of a gigantic system including 340,000 hectares of agricultural lands and involving seven provinces near Manila. The scope of the system may be gathered when it is realized that it embraces all the countryside included in the valleys between the west and east coast ranges as far north as the boundaries of Pangasinan. It will also entail the control of all the rivers of that region that are tributary to the Rio Grande.

PANAMA CANAL LOCKS.—The most gigantic engineering features of the Panama Canal will be the great locks to be located at three different points, ten at Gatun, six at Pedro Miguel and seven at Milaflores. The largest of these will be eighty-two feet high, and all will be sixty five feet wide. Bids were opened at the Isthmian Canal Commission, Washington on June 14th for furnishing the material and building these locks, which will require about 60,000 tons of steel. The lowest bid was submitted by the McClintock-Marshall Construction Company of Pittsburg for $5,374,474. The United States Steel Products Export Company submitted two bids at $6,100,000 and $6,200,000. The bid of the Maryland Steel Company was $8,409.368, and of the Riter-Conley Manufacturing Company of Pittsburg $10,183,257.

YANGTSZE DEFENCES.—Peking is considering the request of the Viceroy of the Liangkiang for activity on the part of the Board of War in the repair and strengthening of the defences at the strategical points along this river. The Viceroy announces that he is ready to supply the funds necessary.

THE TA CHING BANK BUILDING.—This new Shanghai building is now occupied. It is a four storey structure with a frontage of 240 feet on Hankow Road and a depth of 75 feet. The bank occupies the first floor and the second and third floors are set aside for offices. It is of massive construction with red brick facing. The architects were Messrs. Atkinson & Dallas. Two elevators are installed and were supplied by Messrs. Scott, Harding & Co. representing Messrs. A. Smith & Steven, manufacturers. The doors of the strong rooms of the bank were supplied by Messrs. Jardine, Matheson & Co., agents for Messrs. Chubb & Sons,; Messrs. Ilbert & Co. supplied the tiles, etc., and Messrs. Scott, Harding & Co., the plate and other glass. The hot and cold water installation was made by Messrs. Howarth, Erskine, Ltd.

LIAO RIVER DREDGING.—Provision has been made by the Peking Government for the expenditure of Tls. 500,000 during the next five years. A tax will be levied on vessels covering three-fifths of that amount and the balance will be supplied by the Federal Government.

PUBLIC WORKS IN JAVA.—Mr. Consul J. W. Stewart in his report for 1909 states that much needed improvement to the harbor at Sourabaya are being carried out. The river is being widened and dredged with a view to relieving the congestion of lighter traffic and a much larger scheme involving the construction of a harbor with wharves alongside which ocean-going vessels can load and discharge is under consideration, and will, in due course, be reported upon by two experts who have been sent out from the Netherlands for the purpose. Dredging operations on the bar at the western entrance to Sourabaya harbor have resulted in a gain of about 2 ft. of water and vessels drawing from 19 to 21 ft. can now use this entrance. Supplies have been voted by the Government for the carrying out of harbor improvements on a large scale at Samarang. The proposed improvements include the lengthening of the breakwaters, the construction of a harbor for lighters, and of a subsidiary canal with customs wharves and warehouses for the accommodation of imported goods, leaving the present canal free for outward traffic.

## SHIPBUILDING, MERCHANT MARINE AND FISHERIES

FUSAN-BAKAN S. S. LINE.—It is the purpose of the Japanese Railway Board to add two new steamers of 3,000 tons each to meet the demand for traffic carrying when the Antung-Mukden Railway is completed. The orders will be placed with the Mitsu Bishi and the Kawasaki Docks.

PACIFIC MAIL S. S. CO.—At the recent meeting of the stockholders of the Pacific Mail W. G. Rockefeller was elected director to succeed to the vacancy made by the death of the late E. H. Harriman and Mr. M. D. Schiff succeeded W. V. S. Thorne.

THE SHANGHAI DOCK AND ENGINEERING COMPANY, LTD.—The statement for the year shows an increase in gross earnings of Tls. 230,-569.20 and the increase in net earnings Tls. 120,406.50 compared with the previous year. At the annual meeting the chairman said "taking into consideration the scarcity of work and the keen competition for it, we consider these increases very satisfactory."

REDUCED CHARGES AT DAIREN.—It is understood that a reduced scale of charges for stevedoring and wharfage will go into effect at an early date. This with the compulsory pilot system free of charge are among the innovations at this port.

NEW JAPANESE CRUISER IN COMMISSION.—The second class cruiser Tone, constructed at the Sasebo dockyard, after her speed trials has been placed in commission. Her displacement is 4,035 tons and her speed 23 knots. Her armament consists of two 6-inch guns, twelve 4.7 inch guns and two-twelve pound.

WEIR COMPANY'S NEW VESSELS.—The Leceric and the Oteric, 11,000 tons, fitted for passenger service, recently launched from the Clyde, will soon be added to the trans-Pacific trade for this company.

THE NEW ENGINEERING AND SHIPBUILDING WORKS, SHANGHAI.—The Tung Tsi, a light draft steamer and one of two ordered for Northern Service, was launched from the above works last month. The vessels are 150 feet long and 25 feet in length and are equipped with engines of diagonal compound type with locomotive marine boilers. This company has been very active this season having orders for ten steel lighters, several tenders and much repair work.

THE TOYO KISEN KAISHA.—It was unanimously agreed at a recent meeting of the Board of Directors to pay 7.50 a share on the 130,000 shares issued and that the balance be paid in instalments to wipe off pressing indebtedness and to pay in part for the new vessel of the *Tenyo Maru* type recently ordered at the Mitsu Bishi Dockyards.

MEXICO MARU LAUNCHED.—This vessel ordered by the Osaka Shosen Kaisha for its trans-Pacific service was successfully launched from the Mitsu Bishi Dockyards last month. She has a displacement of 6,000 tons and is the most modern vessel equipped as a freight steamer designed for this trade.

NEW YORK-MANILA LINE ADVOCATED.—Vice-Consul Chester Davis, in a recent report from Colombo, directs attention to the fact that this year the exports from Ceylon to the United States will reach $13,000,000 gold and of the imports the United States supplies but $1,000,-000. He advocates a direct line of steamers from New York to Manila calling at Aden, Colombo, Singapore and Hongkong and points to the great development of Ceylon through direct connection with Great Britain as evidence of the assistance such a line would prove in the development of Manila and the Philippines.

SHIRE LINE INNOVATIONS.—Advices have been received that this line has reduced the sailing time between London and the Far East to 45 days and reduced rates of ₱350 from Hongkong to London and ₱330 to Marseilles have been announced.

PIER CHARGES AT MANILA.—The Insular Collector of Customs has issued the following circular:

"Every vessel coming to a pier shall pay a pier charge of one centavo per gross ton per twenty-four hours or for any part thereof, exceeding six hours; Provided, that the charge for twenty-four hours to any vessel shall not exceed one hundred and fifty pesos (₱150), and Provided Further, that when any vessel which has entered the Port of Manila on its outward voyage and discharged cargo at a pier, enters this port again on its inward voyage, the pier charge shall be one-half the regular charge."

THE HONGKONG, CANTON, MACAO S. S. CO., LTD.—The profit for the year including $20,-766.39 carried forward from former account amounted to $143,526.21.

THE OSAKA SHOSEN KAISHA.—This company recently declared a dividend of 6% for the half year.

JAPAN'S NAVAL PROGRAM.—According to the *Japan Mail* the program outlined is confined to the following:

"The projected expansion shall be carried out as soon as practicable in accordance with the minimum naval defence scheme formulated by the authorities. 2. The said expansion shall be carried out within the limit of neither violating the non-loan policy of the present Cabinet nor obstructing work on urgent undertakings. 3. The financial resources for the purpose shall be obtained from surplus revenue. 4. The principle of manufacturing warships in Japan shall be adhered to for the time being, so as to avoid the outflow of specie and practice economy as much as possible, and accordingly no extraordinary item, such as expenditure for the fourth expansion shall be made in the Budget. 5. The terms to the already established schemes shall not be altered. In the next fiscal year, therefore, a sum from Yen 15,000,000 to Yen 20,000,000 is to be added to the expenditure already allotted, and with this money the principle of large ships and large guns is to be adhered to."

## MINES, MINERALS AND THE METAL TRADE

F. M. S. TIN RETURNS.—The returns for June show an output of 11,085 piculs.

KOREAN GOLD PRODUCTION.—The value of gold produced from the Sakju and Changsong mines in July is reported to have reached yen 219,000.

THE IWAKI CEMENT COMPANY.—This organization has decided to reduce its capital from yen 1,000,000 to yen 850,000. The net profits for the term amounted to yen 4,762.

THE KUANTAN TIN COMPANY.—The report for the year showed a profit of $6,787 and gave the information that the deposits would be worked out in another year. The company has $30,000 on fixed deposit, $10,600 on current account with tin in transit. If the company went into liquidation, it would give the shareholders approximately $4 a share.

STRAITS TRADING COMPANY, LTD.—The half yearly report of this company shows a net profit for the term of $519,370, out of which a dividend of 15% was paid.

AMERICAN MACHINERY FOR BORNEO.—Consul General Du Bois, of Singapore, directs attention to the supply of 800 tons of machinery and 400 tons of iron frame work shipped from the United States to Borneo for installation on a jelatong plantation. The work of the American factory was so perfect that after a voyage of 12,000 miles it was successfully installed without the slightest adjustment.

RAUB GOLD OUTPUT.—The output for the four weeks ended July 20th amounted to 1,446 ounces.

THE MENGLEMBU LODE SYNDICATE, LTD.—The meeting called for the purpose of discussing a resolution providing for the increase of capital to $500,000, no action was taken in view of an offer to purchase having been made in the interval following the notice of meeting.

THE FUSHUN MINE CONTROVERSY.—The Chinese authorities have reduced their demands to a request that the Chinese owner be reimbursed to the amount of yen 220,000 and the Japanese police be withdrawn.

THE CANTON CEMENT WORKS.—Vice Consul Meyers gives the following description of the Government works at Canton:

"The entire plant consists of the factory, a dwelling for the manager, several large offices, and dwellings for the laborers, all resting upon piles in a fork of the Pearl River, the factory being constructed of steel frames. The plant has eight kilns, and a capacity of 500 casks, of 400 pounds each, per day, but the present output is only 250 casks. A 600 horse-power engine and several small motor engines supply the motive power, and a small electric plant furnishes the light for the factories and office buildings. Attached to the works is a shop for the manufacture of the casks, which cost 24 cents each. The machinery for the entire plant was purchased in Germany. The plant has cost the Government about $1,122,000, which amount has been taken from the education fund, to be returned from the profits of the works. The workmen number 250, whose wage is 14 cents per day and quarters. The only foreigner employed is a German chemical engineer.

The rock used in the manufacture of the cement is found about 80 miles from the works, is a pure limestone, and well suited for cement purposes, yet the output is not uniform, but this is attributed to the variable qualities of the coal used. Although little of the product has been put on the market, there is no reason why these works can not produce cement of first-class quality and at prices as low as that produced by its competitors. Of the 12,000 casks sold, 2,000 were used in Canton, 2,000 were shipped to North China, and 8,000 went to Manila.

THE SHELL TRANSPORT AND TRADING COMPANY, LTD.—At the annual meeting of this company special reference was made to the new petroleum concession in Sarawak and the necessity of providing for £500,000 to develop it by erecting a refinery, pipe line, etc. Besides the Borneo concession rich strikes have been reported on the holdings of the company in Java and Sumatra and the directors' report contains the information that if the present plans of the company mature, it will control an output of 3,000,000 tons of crude oil annually within another year. For the purpose of financing the extensive operations, an additional £1,000,-000 were required and the increase of the capital stock of the company to £3,500,000 was decided upon immediately in an extraordinary meeting following the adjournment of the general meeting of the shareholders.

THE DUFF DEVELOPMENT.—The report of this company shows an output of 2,060 ounces of gold for the half year against 4,674 ounces for the corresponding term 1909.

THE COWIE HARBOR COAL COMPANY.—The following report was submitted by the chairman at the annual meeting recently held in London as a result of a visit to the mines. The company has arranged a scheme which would give a storage up to 2,000 tons at Sandakan, which would provide sufficient coal at all times for vessels calling without having to telegraph ahead.

"The conclusion he had arrived at was that the mine would be a great success, and for this they had the backing of facts. First, they had some 20,000,000 tons of coal proved. With normal freights they had a very ready market. The coal was very much liked by everybody. They had got a first-rate and a very confident staff. He asked the engineer of the boat on which he went out to Hongkong whether he thought the coal was sufficiently good to use on the Norddeutscher Lloyd big boats, and he said he was quite sure of it. Their output was increasing, and by the end of the

year the manager expected to be putting out 200 tons a day. The output to-day was from 130 to 135 tons a day. When they were producing 125 tons a day they were making a profit. They had reached that point when their cost of putting on board ship was lower than the lowest figure that had been paid for the coal, and this was the most important feature of the whole lot. If they were producing at a point lower than they had ever sold at, it only required an increased output to make a very nice profit. (Applause.) Anyway, he was satisfied. He had come back not only sanguine, but quite sure of success. And he was only echoing the opinion of every man out there who had had anything to do with the colliery at all."

F. M. S. Mining Report for 1909.—This report places the tin output at 818,888 piculs compared with 816,789 in 1906, 183,119 laborers being employed, while in 1906 there were 212,660 in 1906. The average price in 1909 was $68.00, Straits Cur., against $89.60 in 1906. The total area alienated for mining purposes amounted to 281,070 acres. The Senior Warden is doubtful of the prospects of the tin mining industry owing to the labor problem as 28,000 laborers have left the mines for other more desirable pursuits. Reference is made to the discovery of a bed of coal at Rawang in Selangor as promising results. The gold won during the year amounted to 16,243.6 ounces, of which Perak furnished 1,279; Negri Sembilan, 77, and Pahang 14,887.6.

American Oil Dumped in India.—An exchange reports that, while the Burma dealers were raising their prices following the new petroleum tax, an American syndicate dumped 1,000,000 gallons on the Calcutta market and, as the exchange states, "upset the Burma applecart."

Coal Depot at Bremerton.—The U. S. Naval authorities have decided to increase facilities for coal storage at the Naval station to 200,000 tons. The estimated cost of the depot proposed is placed at $2,000,000 gold.

Strike at the Tronoh Tin Mines.—The *Penang Gazette* reports a strike at Tronoh of an extensive order some of the ground producing 90 catties per cubic yard.

## FINANCIAL, COMMERCIAL AND MISCELLANEOUS

The Trade of Bangkok.—The total value of imports for the fiscal year amounted to Ticals 69,811,711 and the exports Ticals 102,570,434. Of the exports the largest volume is in rice and teak and of imported manufactured goods, cotton leads. There is a falling off in the import of cotton and an increase in the export of rice for the year.

Chinese Public Instruction.—The president of the board of education has presented estimates for Tls. 1,600,000 to the board of finance for educational work for the coming year.

Cotton Growing in British North Borneo.—The report of the directors of the British North Borneo Company refers to the adaptability of the colony to the growing of tree cotton. During the year 40 tons were exported from Tuaran and the product was favorably reported on in Hongkong and Japan. A large area is adapted to the cultivation of this product and encouragement is being given the industry.

The Tansan Mineral Water Company.—This company has been organized in London with a capital of £50,000 for the purpose of acquiring the sole and exclusive control of the right of importation, distribution and sale throughout Great Britain and the continent of the Japanese mineral water of that name.

Shanghai Financial Situation.—The Imperial Edict, authorizing the Shanghai Taotai to borrow Tls. 3,500,000 from the foreign banks to assist the local market, has relieved the situation that had assumed serious proportions as native bank after bank suspended payment. In addition to this loan, arrangements were made to supplement it by native contribution of Tls. 1,500,000 in order to cover any risks. It is believed that the recent experience of the native banks will result in an adjustment of methods of carrying on business so as to prevent a recurrence.

The Restoration of Taku.—The conditions under which the British Government proposes to restore Taku to China provide that the Chinese agree to build no more fortresses or arsenals there and that it will not be utilized as a naval base.

Shanghai Municipal Revenue.—The total, according to the *Gazette*, for June amounted to Tls. 214,700.59 as against Tls. 172,825.28 for the corresponding month, 1909. The total for the half year 1910 amounted to Tls. 1,251,525.51 while the estimate for the year amounted to Tls. 2,575,350.

Malay and Foreign Contract Syndicate, Ltd.—This company has been registered with a capital of £30,000, of 29,850 shares ordinary at £1 each and 3,000 founders 1s. each.

Another Rubber Flotation.—The Pulau Bulang Rubber and Produce Co., Ltd. has been floated with a capital of $5,000,000 in $10 shares, of which the present issue is $4,670,000.

Rubber Curing Factory.—The Planters' Stores and Agency Co., Ltd., propose establishing a factory at Kuala Lumpur equipped with modern machinery for the purpose of handling the product of the small planters. Three large creping and washing machines will be installed and the motive power provided by a 45 h. p. oil engine.

Philippine Immigration.—The number of foreigners arriving in the Philippines during the year ended June 30th, numbered 9,532, of whom 6,772 were Chinese; 772, Japanese; 579, Spanish; 586, British; 181 Germans; 201 Indian and the balance scattering.

Big Rubber Dividend.—The Federated (Selangor) Rubber Co. will pay a dividend of 125% after only five years life.

Mongolian Protection Society.—Many Princes and Dukes in Peking are interested in the formation of a Mongolian Protection Society and several large contributions have been made to its treasury.

Philippine Wood for Late Emperor's Mausoleum.—A contract was entered into by the Export and Import Lumber Company of Manila through its president, Mr. W. Payne, to supply over 50,000 feet of Philippine walnut, narra and lumbayo to the Chinese Government available in September. The framing timbers of the mausoleum will be of walnut selected from the giant trees of Mindanao, some of which have a diameter of 45 inches, are 60 feet in length and a weight of 17 tons. The narra and lumbayo will be utilized for interior finishing, etc. Philippine lumbermen are greatly encouraged over this contract and look forward to many orders of a similar character from China.

Tiehling Flour Mills.—A report from Tiehling is to the effect that the management of the Tiehling Mill is negotiating with the Russian Flour Mill Company at Kwangchengtzu for the purchase of the latter plant with a view to increasing the capacity to 500 bags daily.

The China Mutual Life Insurance Co., Ltd.—According to the recent annual report the assets of this company now stand at $8,415,250, an increase during the year of $1,300,760.00. New applications were received during the year amounting to $13,632,247 being an increase over the previous year of $1,306,427. Of these, policies were issued to the amount of $11,986,645 and applications amounting to $1,645,602 were postponed or declined. The total insurance in force March 31st, 1910, amounted to $37,855,885. The total income for the year amounted to $3,566,559, an increase over the previous year of $492,724.

Chinese Press Association.—The editors and proprietors of Chinese newspaper, published in Shanghai propose the organization of a press association with a view to advancing the interests of constitutional government and to abolish the distinction between Manchus and Chinese. Journalists employed on Government or revolutionary papers will be excluded.

Encouraging the Art of Packing.—Osaka has arranged for an exhibition in October at which the main feature will be a competition in the art of packing. All packers throughout the empire are being invited to attend.

## SAN FRANCISCO'S UNRIVALLED HOTEL

The completion of the new extension to the St. Francis Hotel gives San Francisco one of the largest and best appointed hostleries in the world. Ever since it was opened in 1905, it has been famous for the beauty of its appointments and the excellence of its accommodations; and the additions increase the capacity of the house nearly fifty per cent, making possible many improvements and novel features. During and after the great disaster of 1906 the St. Francis was the only large hotel in San Francisco that was able to keep running. Its location facing Union Square, in the heart of the theater, shopping and club district, is unrivalled; while the architecture is so arranged that a majority of the rooms have a magnificent prospect. Under the management of Mr. James Woods the hotel has become famous around the world, and it is now prepared to accommodate its ever increasing patronage.

## *LONDON, ENGLAND, METAL MARKET

The following are (Friday, July 1) prices ¶ of metals:—

| COPPER. | £ | s. | d. | | £ | s. | d |
|---|---|---|---|---|---|---|---|
| *Tough cake and Ingot | 59 | 0 | 0 | .. | 60 | 0 | 0 |
| *Best Selected | 59 | 0 | 0 | .. | 60 | 0 | 0 |
| *Electrolytic | 60 | 0 | 0 | .. | 60 | 10 | 0 |
| *Sheets and sheathing | 69 | 0 | 0 | .. | — | | |
| *Flat bottoms | 72 | 0 | 0 | .. | — | | |
| STANDARD †Cash | 54 | 10 | 0 | .. | 54 | 12 | 6 |
| STANDARD †Three Months | 55 | 5 | 0 | .. | 55 | 7 | 6 |
| *Copper tubes, seamless per lb. | 0 | 0 | 8½ | .. | — | | |
| *Lake | 62 | 0 | 0 | .. | 63 | 0 | 0 |

* Less 3½ per cent. † Net.

| ALLOYS. | | | | | |
|---|---|---|---|---|---|
| Brass: Wire | 0 | 0 | 6½ | .. | — |
| ,, Tubes (solid drawn) | 0 | 0 | 6¾ | .. | — |
| ,, Sheets | 0 | 0 | 6½ | .. | — |

| TIN. | | | | | | | |
|---|---|---|---|---|---|---|---|
| English ingots, f. o. b. | 148 | 0 | 0 | .. | 149 | 0 | 0 |
| ,, bars | 149 | 0 | 0 | .. | 150 | 0 | 0 |
| ,, refined | 150 | 0 | 0 | .. | 151 | 0 | 0 |
| Straits... Cash | 149 | 10 | 0 | .. | 149 | 15 | 0 |
| Straits... Three months | 150 | 7 | 6 | .. | 150 | 12 | 6 |
| Australian spot | — | | | .. | — | | |
| Banka (in Holland) Cash | 150 | 13 | 9 | .. | — | | |
| Banka (in Holland) Three months | 150 | 6 | 3 | .. | — | | |

| LEAD. | | | | | | | |
|---|---|---|---|---|---|---|---|
| Spanish or soft foreign | 12 | 11 | 3 | .. | 12 | 13 | 9 |
| English pig, common | 12 | 15 | 0 | .. | 12 | 17 | 6 |
| ,, L. B. | 13 | 7 | 6 | .. | — | | |
| ,, sheet and bar lead | 14 | 7 | 6 | .. | — | | |
| ,, pipe | 14 | 17 | 6 | .. | — | | |
| ,, red | 16 | 0 | 0 | .. | — | | |
| ,, white | 18 | 0 | 0 | .. | — | | |
| ,, patent shot | 16 | 0 | 0 | .. | — | | |

| SPELTER. | | | | | | | |
|---|---|---|---|---|---|---|---|
| Silesian ordinary brands | 22 | 2 | 6 | .. | 22 | 5 | 0 |
| ,, special brands | 22 | 15 | 0 | .. | 23 | 0 | 0 |
| English Swansea | 22 | 15 | 0 | .. | 23 | 5 | 0 |
| Sheet zinc | 25 | 10 | 0 | .. | — | | |

| ANTIMONY. | | | | | | | |
|---|---|---|---|---|---|---|---|
| Antimony | 27 | 0 | 0 | .. | 29 | 0 | 0 |
| ,, Crude | 12 | 10 | 0 | .. | 13 | 10 | 0 |
| ,, Ore (basis 50%) | 8 | 0 | 0 | .. | 10 | 0 | 0 |

| QUICKSILVER. | | | | | |
|---|---|---|---|---|---|
| Flasks, 75 lbs. warrants | 8 | 15 | 0 | .. | — |

| ALUMINIUM. | Per ton. | | | | Per ton. | | |
|---|---|---|---|---|---|---|---|
| 98-99 per cent | 72 | 10 | 0 | .. | 75 | 10 | 0 |

| NICKEL. | Per ton. | | | | Per ton. | | |
|---|---|---|---|---|---|---|---|
| 98-99 per cent. guaranteed | 167 | 10 | 0 | .. | 171 | 0 | 0 |

PLATINUM.

Per oz. Troy, 130s.; nominal and subject to negotiation.

*Mining Journal.

# FAR EASTERN STOCKS AND QUOTATIONS

*Courtesy of Messrs. Kadoorie & Co., Hongkong, August 5, 1910.*

| STOCK. | WHEN ESTABLISHED | CAPITAL | NO. OF SHARES | VALUE | PAID UP | RESERVE | AT WORKING ACCOUNT | DATE | LAST DIVIDEND. | Approximate Yield per cent per annum at Present Quotation | CLOSING QUOTATIONS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **BANKS.** | | | | | | | | | | | |
| Hongkong & Shanghai Banking Corporation | 1865 | $15,000,000 | 120,000 | $125 | $125 | g £1,500,000<br>s $15,500,000<br>i $250,000 | $2,028,988 | 31-12-09 | £2. 5/- for half year ending 31-12-09, @ ex 1/9½ = $25.11 | 5% | 950 buyers<br>£89 10s. |
| National Bank of China, Ld. | 1891 | £699,475 | 10) 99,925 | £7 | £6 | e £4,099<br>$400,000 | $34,167 | 31-12-09 | $2 (London 3/6) for 1903 | .... | $76 buyers |
| **MARINE INSURANCES.** | | | | | | | | | | | |
| Canton Insurance Office, Ld. | 1881 | $2,5[illegible]0,000 | 10,000 | $250 | $50 | $1,560,000<br>j $254,583<br>u $302,799 | Nil. | 31-12-08 | $10 for 1908 | 6% | $172½ sellers |
| North China Insurance Co., Ld. | 1903 | £150,000 | 10,000 | £15 | £5 | g £125,000<br>s Tls. 225,000<br>u Tls. 335,253<br>f Tls. 146,586 | Tls. 207,572 | 30-6-09 | Final of 7/6 making 15/- for 1908. | 5% | Tls. 115 buyers |
| Union Ins. Society of Canton, Ld. | 1867 | $3,100,000 | 12,400 | $250 | $100 | s $3,000,000<br>g £90,000<br>f $287,984<br>j $1,449,735<br>u $713,985 | $287,984 | 31-12-09 | Final of $20 per share, making in all $50 per share for 1908, and an int. div. of $30 per share for 1909 | 6% | $850 sellers |
| Yangtsze Ins. Association, Ld. | 1889 | $1,200,000 | 12,000 | $100 | $60 | $1,000,000<br>j $294,405<br>$199,234 | $707,637 | 31-12-08 | $12 for year ending 31-12-08 and interim of $3 on account of 1909 | 7 | $205 sales |
| **FIRE INSURANCES.** | | | | | | | | | | | |
| China Fire Ins. Co., Ld. | 1870 | $2,000,000 | 20,000 | $100 | $20 | $1,000,000<br>x $550,348<br>f $61,168 | $438,406 | 31-12-09 | $6 and bonus $2 for 1908 | 7% | $112 sales |
| Hongkong Fire Ins. Co., Ld. | 1868 | $2,000,000 | 8,000 | $250 | $50 | $1,460,000 | $426,218 | 31-12-09 | $27 for 1908 | 8% | $350 sellers |
| **SHIPPING.** | | | | | | | | | | | |
| China & Manila Steamship Co., Ld. | 1882 | $750,000 | 1) 30,000 | $25 | $25 | i $57,734 | Dr. $3,777 | 31-12-09 | $4% for 1906 | .... | $7 sellers |
| Douglas Steamship Co., Ld. | 1883 | $1,000,000 | 20,000 | $50 | $50 | $230,000<br>i $100,589 | Nil. | 30-6-09 | $2½ for year ending 30-6-1908 | .... | $28 sellers |
| Hongkong, Canton & Macao Steamboat Co., Ld. | 1865 | $1,200,000 | 80,000 | $15 | $15 | s $250,000<br>d. i. $627,500<br>f $103,545<br>$ 19,106 | $20,766 | 31-12-09 | Final of $1½ for 1909 | 8% | $32½ sellers |
| Indo-China Steam Navigation Co., Ld. (Preferred)<br>Do. Do. (Deferred) | 1882 | m £600,000 | 2) 60,000<br>2) 60,000 | £5 | £5 | i £138,100 | £7,537 | 31-12-09 | No dividend paid for last two yrs. | .... | $65 sellers |
| "Shell" Transport & Trading Co., Ld. | 1898 | £ 2,000,000 | 2,000,000 | £1 | £1 | £720,000<br>i £100,000 | £192,994 | 31-12-08 | 3rd interim of 2/- per share (coupon No. 12) making in all 4/- for 1908, and interim of 1/- for account 1909 | 5% | 94/- buyers<br>£11 buyers |
| "Star" Ferry Co., Ld. | 1898<br>1900 | $200,000 | 10,000<br>10,000 | $10<br>$10 | $10<br>$5 | i $71,850<br>$62,681 | $1,159 | 30-4-10 | A dividend of 7% and bonus of 5% making 12% for year ending 30.4.1901 | 5<br>4½ | $24 sellers<br>$13 sellers |
| **REFINERIES.** | | | | | | | | | | | |
| China Sugar Refining Co., Ld. | 1878 | $2,000,000 | 20,000 | $100 | $100 | s $520,000<br>r $83,620 | Dr. $8,090 | 31-12-09 | $10 per share for 1909 | 6% | $167 |
| Luzon Sugar Refining Co., Ld. | 1882 | $700,000 | 7,000 | $100 | $100 | none | Dr. $101,851 | 31-12-09 | $3 for 1897 | — | $26 sellers |
| Perak Sugar Cultivation Co., Ld. | — | Tls. 350,000 | 7,000 | Tls. 50 | Tls. 50 | Tls. 100,000 | Tls. 6,302 | 31-8-09 | Tls. 10 for year ending 31-8-09 | .... | Tls. 800 sales |
| **MINING.** | | | | | | | | | | | |
| Chinese Engineering & Mining Co., Ld. | 1901 | £1,000,000 | 1,000,000 | £1 | £1 | d £215,000<br>h £84,390 | £1,435 | 28-2-09 | Final of 1/6 making 3/- for 09 | 9% | Tls. 16 sellers |
| Headwaters Mining Co. | 1908 | ₱600,000 | 28) 600,000 | ₱10 | ₱10 | | | | First year | | ₱10 buyers |
| Raub Australian Gold Mining Co., Ld. | 1892 | £200,000 | 150,000<br>50,000 | £1<br>£1 | 18-10<br>£1 | £4,873 | Dr. .... | .. | 1/2 per share, 13th div. | 5% | $7½ buyers |
| Oriental Consolidated Mining Co. Ld. | .... | g $5,000,000 | 500,000 | g $10 | $10 | none | .... | .. | Final of gold $0.65 for 1909 in all g $15 | .. | 41/- |
| **DOCKS, WHARVES AND GODOWNS.** | | | | | | | | | | | |
| Fenwick (Geo.), & Co., Ld. | 1889 | $450,000 | s 18,000 | $25 | $25 | $25,275 | Dr $8,460 | 31-12-09 | $1½ for year ending 31-12-06 | .... | $10 |
| Hongkong & Kowloon Wharf & Godown Co., Ld. | 1886 | $3,000,000 | 60,000 | $50 | $50 | $550,000<br>i $31,993<br>i $40,000 | $264,847 | 31-12-09 | $2½ for 1909 | 4½% | $54 buyers |
| Hongkong & Whampoa Dock Co., Ld. | 1866 | $2,500,000 | 50,000 | $50 | $50 | i $88,412<br>v $221,000 | $132,765 | 31-12-09 | Interim of $1½ for account 1909 | .. | $50 buyers |
| Shanghai Dock & Engin'g Co., Ld. | 1906 | Tls. 5,570,000 | 13) 55,700 | Tls. 100 | Tls. 100 | Tls. 1,000,000 | Tls. 6,261 | 30-4-09 | Final of Tls. 3½ making Tls. 6 in all for 1909/10 | 6¼ | Tls. 77 sellers |
| Shanghai & Hongkew Wharf Co., Ld. | 1902 | Tls. 3,600,000 | 36,000 | Tls. 100 | Tls. 100 | b Tls. 697,257<br>r Tls. 70,000<br>s Tls. 125,000 | Tls. 9,222 | 31-12-09 | Final of Tls. 4 making Tls. 7 for 1909 | 7 | Tls. 118 sellers |
| **LANDS, HOTELS AND BUILDINGS.** | | | | | | | | | | | |
| Anglo-French Land Investment Co., Ld. | 1906 | Tls. 2,500,000 | 3) 25,000 | Tls. 100 | Tls. 100 | Tls. 25,000 | Tls. 4,314 | 29-2-09 | Tls. 6 for year ending 29-2-10 | 5¾ | Tls. 97 sellers |
| Central Stores, Ld. | — | $751,845 | 16) 50,123 | $15 | $15 | n. $1,000 | $1,000 | 31-12-08 | 8% for 1909 | — | $16 buyers |
| Hongkong Hotel Co., Ld. | 1866 | $600,000<br>$400,000 | 12,000<br>8,000 | $50<br>$50 | $50<br>$25 | $648,975<br>r $10,000 | $1,277 | 31-12-09 | $2.60 on old shares, $1.30 on new shares, for ½ year ending 31-12-09 | — | $104 buyers<br>$82 sellers |
| Hongkong Land Investment & Agency Co., Ld. | 1889 | $5,000,000 | 50,000 | $100 | $100 | s $250,000 | $27,971 | 31-12-09 | Interim of 3½ for 1910 | 6½ | $98½ ex div. sales |
| Humphreys' Estate & Finance Co., Ld. | 1887 | $1,500,000 | 150,000 | $10 | $10 | i $226,945<br>20) $25,856 | $5,471 | 31-12-09 | 45 cents for 1909 | 5¾% | $8½ sellers |
| Kowloon Land & Bldg. Co., Ld. | 1889 | $300,000 | 6,000 | $50 | $30 | none | $269 | 31-12-09 | $2½ for 1909 | 8½% | $32 sales |
| Shanghai Land Investment Co., Ld. | 1888 | Tls. 3,900,000 | 78,000 | Tls. 50 | Tls. 50 | Tls. 1,523,045<br>s Tls. 300,000 | Tls. 63,969 | 31-12-09 | Interim of Tls. 3 for 1910 | 6¾ | Tls. 112 |
| West Point Bldg. Co., Ld. | 1889 | $625,000 | 12,500 | $50 | $50 | none | $1,958 | 31-10-09 | Interim of $1.80 for 1910 | 8¾ | $39 |
| **COTTON MILLS.** | | | | | | | | | | | |
| Ewo Cotton Spinning & Weaving Co., Ld. | 1895 | Tls. 1,000,000 | 5) 20,000 | Tls. 50 | Tls. 50 | Tls. 250,000<br>Tls. 40,098 | Tls. 10,991 | 31-10-09 | Tls. 11 for year ended 31-10-09 | 8½ | Tls. 120 sellers |
| Hongkong Cotton Spinning, Weaving & Dyeing Co., Ld. | 1901 | $1,250,000 | 125,000 | $10 | $10 | s $20,000 | $26,297 | 30-7-09 | 50 cents for year ending 31-7-08 | 8% | $5 |

# FAR EASTERN STOCKS AND QUOTATIONS—(CONTINUED.)

| STOCK. | WHEN ESTABLISHED | CAPITAL. | NO. OF SHARES. | VALUE. | PAID UP. | RESERVE | AT WORKING ACCOUNT. | DATE. | LAST DIVIDEND. | Approximate Yield per cent. per annum at Present Quotation. | CLOSING QUOTATIONS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| International Cotton Manufacturing Co., Ld. | 1895 | Tls. 750,000 | 6) 10,000 | Tls. 75 | Tls. 75 | Tls. 175,000 | Tls. 8,372 | 30-9-09 | Tls. 7½ for year end. 30-9-09 (10%) | 12% | Tls. 62 |
| Laou-kung-mow Cotton Spinning & Weaving Co., Ld. | 1895 | Tls. 800,000 | 8,000 | Tls. 100 | Tls. 100 | none | Tls. 4,829 | 31-12-08 | Tls. 6 for 1909 | % | Tls. 68½ |
| Soy Chee Cotton Spinning Co., Ld | 1895 | Tls. 1,000,000 | 2,000 | Tls. 500 | Tls. 500 | £ Tls. 31,172 | Tls. 31,173 | | Tls. 25 for 1909 | 10% | Tls. 240 |
| **MISCELLANEOUS.** | | | | | | | | | | | |
| Ball's Asbestos Eastern Agency, Ld. | 1895 | £5,377.10s. | 11) 8,604 | 12/6 | 12/6 | £1,500 | £682 | 31-12-08 | 15% for 1908 | | $8 sellers |
| China-Borneo Co., Ld. | 1903 | $720,000 | 8) 60,000 | $12 | $12 | $40,000 | Nil. | 31-12-08 | 5% for 1909 | 6% | $9½ sellers |
| China Light & Power Co., Ld.<br>Do. do. Special Shares | 1901<br>1907 | $300,000 | 50,000<br>17) 50,000 | $5<br>$1 | $5<br>$1 | none | $46,483 | 31-7-09 | 60 cents for year ending 28-2-06 | | $140 sellers |
| China Provident Loan & Mortgage Co., Ld. | 1898 | a $1,250,000 | 7) 125,000 | $10 | $10 | $100,000 | $2,602 | 31-12-09 | 80 cents for 1909 | 9% | $8½ sellers |
| Dairy Farm Co., Ld. | 1896 | $300,000 | 40,000 | $7½ | $6 | l $10,000<br>$10,000 | $1,850 | 31-7-09 | $1.20 for year ending 31-7-09 | 6½% | $19½ |
| Green Island Cement Co., Ld. | 1897 | $4,000,000 | 400,000 | $10 | $10 | $14,000 | $4,290 | 31-12-09 | Final of 40 cts. making in all 75 cts. per share for 1909 | 10 | $6½ sellers |
| H. Price & Co., Ld. | 1907 | $120,000 | 19) 15,000 | $10 | $10 | none | $1,923.87 | 31-12-09 | 14% viz $1.40 for 1909 | 12% | 12 |
| Hongkong Electric Co., Ld. | 1889 | $600,000 | 60,000 | $10 | $10 | none | $11,798 | 28-2-10 | A dividend of $1.20 per share and a bonus of 10 cents | 6 | 19½ buyers |
| Hongkong Ice Co., Ld. | 1881 | $125,000 | 5,000 | $25 | $25 | k $150,000 | $12,662 | 31-12-09 | Final of $8 per share making in all $10 1909 | 6 | $135 buyers |
| Hongkong Rope Manufacturing Co., Ld. | 1883 | $600,000 | $60,000 | $10 | $10 | $40,000 | $9,176 | 31-12-09 | Final of $1 making in all $2 for 1909 | 9 | $21 buyers |
| Maatschappij tot Mijn-, Bosch- en Landbouwexploitatie in Langkat | 1902 | Gs. 2,500,000 | 25,000 | Glds. 100 | Glds. 100 | Tls. 547,500<br>f Tls. 63,914<br>21 Tls. 547,500 | Tls. 316,682 | 31-10-08 | Interim of Tls. 25 for 1910 | 5 | Tls. 1400 sellers |
| Peak Tramways Co., Ld.<br>Do. (New) | 1907 | $750,000 | 25,000<br>50,000 | $10<br>$10 | $10<br>$1 | $20,000 | $3,014 | 30-4-10 | 80 cents on fully paid shares & 8 cents on $1 paid shares for year ending 30-4-10 | 5½<br>5 | $14 sellers<br>$1½ buyers |
| Philippine Co., Ld. | 1904 | $750,000 | 75,000 | $10 | $10 | none | Ps. 18,640 | 31-12-08 | None | .... | $10 |
| Robinson Piano Co., Ltd. | 1900 | $200,000 | 22) 4 000 | $50 | $50 | $5,000 | $61,138 | 31-8-08 | 6% for ½ year ending 30.9.07 | .... | $50 sellers |
| Shanghai-Sumatra Tobacco Co., Ld. | 1902 | Tls. 600,000 | 9) 30,000 | Tls. 20 | Tls. 20 | Tls. 24,820<br>w Tls. 75,000 | Tls. 5,250 | 31-10-08 | Final of Tls. 5 making Tls. 8 for 1908 | 2 | Tls. 165 sellers |
| South China Morning Post, Ld. | 1903 | $150,000 | 6,000 | $25 | $25 | none | Dr. $31,096 | 31-8-09 | None | — | $26 sales |
| Steam Laundry Co., Ld. | 1902 | $100,000 | 20,000 | $5 | $5 | none | $127,86 | 31-5-09 | 50 cents for year ending 30-5-10 | 8 | $5½ sales |
| Union Waterboat Co., Ltd. | 1905 | $500,000 | 15) 50,000 | $10 | $10 | w $11,956 | .. | 31-12-08 | 60 cents for year-end. 31-12-1908. | 6½ | $7½ buyers |
| United Asbestos Oriental Agency, Ld. | 1896 | $100,000 | 10,000 | $10 | $4 | $46,000 | $342 | 31-5-09 | 60 cents per ordinary share for year ending 31-5-09 | 5 | $11½ sellers |
| Watkins, Ltd. | 1899 | $100,000 | 10,000 | $10 | 10 | none | $19,41 | 31-12-09 | 3½ for 1909 | 11% | $2½ buyers |
| Watson (A. S.) & Co., Ld. | 1886 | $900,000 | 90,000 | $10 | $10 | d $300,000<br>e) $25,000 | $1,776 | 31-12-09 | 3% for 1909 | — | $7 sales |
| Weismann Limited | 1904 | $30,000 | 3,000 | $10 | $10 | $12,250 | $67 | 31-7-09 | 10 per cent for year endg. 31.7.08. | 10% | $10 buyers |
| William Powell, Ld. | 1901 | $105,000 | 15,000 | $7 | $7 | none | $782 | 30-6-09 | Final of 30 cents making 80 cents year ending June 30th 1906 | .... | $2½ sellers |
| Societe des Pulpes et Papeteries du Tonkin | | 660,000 | 13,200 | 50 Haiphong | 25 Currency | .... | .. | .... | First year | .... | $29 (Hk.Cy.) |
| **RUBBERS** | | | | | | | | | | | |
| Allagar Rubber Estates, Ltd | 1909 | £85,000 | 29) 750,000 | 2/- | 2/- | .... | .... | .... | ......... | .... | 6/6 |
| Anglo-Malay Rubber Co., Ltd. | 1905 | £150 000 | 1,500,000 | 2/- | 2/- | .... | .... | .... | 80% for year ending 31.12.09 | .... | 26/- |
| Balgownie Rubber Estate, Ltd. | 1905 | †† $200,000 | ‡‡ 20,000 | †† $1 | †† $1 | $7,400 | $11,205 | 31-3-09 | 100% for year ending 31.3.10 | .... | $17 [Singapore] |
| Castlefield Rub. Ld., [fully pd.]. | 1906 | £35,000 | 27) 32,650 | £1 | £1 | none | .... | .... | ......... | .... | 122/6 |
| Damansara (Selangor) Rub. Co. | 1906 | £110,000 | 25 110,000 | £1 | £1 | nil. | £2,220 | 31-12-08 | 50% for 1909 | .... | 175/- |
| Golconda Malay Rubber Co. | 1907 | £80,000 | 26 80,000 | £1 | £1 | nil. | nil. | — | 25% for 1909 | .... | 127/6 |
| Highland & Lnd. Para R. Co.<br>Do. Do. [fully paid]<br>Do. Do. [partly paid] | 1906 | £310,000 | =181,454<br>123,546 | £1<br>£1 | £1<br>15/- | £8,784 | .... | .... | 35% for 1909 | .... | 120/- |
| Kamuning (Perak) Rb. & Tin Co.<br>do do A Shares<br>do do B Shares | 1909 | £200,000 | 950,000<br>105,000 | 2/-<br>£1 | 1/-<br>£1 | nil. | nil. | .... | ......... | .... | 7/- prem. |
| Kuala Lumpur Rubber Co., Ltd. | 1906 | £180,000 | 180,000 | £1 | £1 | £4,000 | 1,82 | .... | 30% for 1909 | — | 195/- |
| Linggi Plantations, Ltd. (ord.)<br>Do. Do. (7% pref.) | 1895<br>Reconst | £100,000 | ×900,000<br>10,000 | 2/-<br>£1 | 2/-<br>£1 | — | ....<br>.... | ....<br>.... | 50 interim | —<br>— | 56/-<br>Nominal |
| Ledbury Rubber Estates Ltd.<br>Do. Do. (contrib.) | 1908 | £125,000 | §§ 60,000<br>§§ 40,000 | £1<br>£1 | £1<br>7/6 | — | — | .... | 17½% for 1909 | .... | 82/- |
| Sagga Rubber Co. Ld. | 1903 | £20,000 | 24) 2,000 | £1 | £1 | nil. | nil.! | — | 25% for 1909 | .... | 310/- |
| Sandycroft Rubber Co. | 1904 | $100,000 | 50,000 | $2 | $2 | $20,000 | $1,275 | 31.1.08 | 150% for year ending 31.1.10 | .... | $35 |
| Sekong Rubber Co., Ld. | 1908 | £80,000 | 27) 80,000 | £1 | 12/6 | nil. | nil. | — | ......... | .... | 32/6 prem. |
| Shelford Rubber State Ld. | 1906 | £65,000 | 65 000 | £1 | £1 | nil. | £836 | $31.12.08 | 7½% for 1909 | .... | 78/9 ex div. |
| Singapore & Johore Rb. Co., Ld. | 1903 | $250,000 | 2,500 | £2 | $2 | nil. | nil. | — | 25% interim | .... | $16 |
| Sungei Choh. Rb. State Co., Ld. | 1907 | £45,000 | 45,000 | £1 | £1 | nil. | nil. | — | ......... | .... | 107/6 |
| Sungei Kapar Rubber Co. | 1906 | £110,000 | 23) 110,000 | £1 | £1 | nil. | £3,448 | 31.12.08 | 37½% for 1909 | .... | 16/3 |
| Toerangie Rubber Co. | 1910 | 30) £100,000 | 51,000 | £1 | 7/6 | .... | .... | — | First year | .... | 2/- prem. |

| LOANS AND DEBENTURES. | AGENTS FOR THE LOAN. | AMOUNT OF LOAN. | PAR VALUE. | OUTSTANDING BONDS. | WHEN PAYABLE. | CLOSING QUOTATIONS. |
|---|---|---|---|---|---|---|
| China Government, 7 per cent. Silver Loan 1886 E. | Hongkong & Shanghai Banking Corporation. | Tls. 767,200 | Tls. 250 | 1914 | Mar. 31st and Sept. 30th each year until Mar. 31st, 1917 | par. (Plus interest) |
| Hongkong Hotel Company, Ltd., 6 per cent. Mortgage Debentures of 1899 ‡ | Hongkong & Shanghai Banking Corporation. | $750,000 | $500 | § all | Half yearly, June 30th and December 31st | par |
| Shanghai & Hongkew Wharf Company, Ltd., 6 per cent. Debenturer of 1902 | Hongkong & Shanghai Banking Corporation. | Tls. 543,900 | Tls. 100 | ......... | Half yearly, June 30th and December 31st | Tls. 103½ |
| Astor House Hotel Company, Ltd., 8 per cent. Debentures of 1903 | Hongkong & Shanghai Banking Corporation. | Tls. 500,000 | Tls. 100 | ......... | Half yearly, January 1st and July 1st | 102½ |
| Chinese Engineering & Mining Co., Ltd., 6 per cent. Debentures of 1903 † | ......... | £500,000 | ¶ | £431,960 | Half yearly, June 30th and December 31st | par. |
| International Cotton Manufacturing Co., Ltd. 7% Debentures of 1901 | Russo Chinese Bank | Tls. 500,000 | Tls. 100 | ‖ | Half yearly, March 31st and Sept. 30th | Tls. 97½. |

a Authorized capital $2,000,000.
b Building Reserve Account.
c Capital Reserve Fund.
d Depreciation Fund.
e Equalization of Dividend Fund.
f Exchange and Investment Fluctuation Account.
g Gold Reserve Fund
h Exchange Reserve Account.
i Insurance Fund.
j Reinsurance Fund.
k Contingencies Account.
l Legal Reserve Fund.
m Authorized Capital
n Sinking Fund.
o Raw Sugar Reserve Account.
p Premium on New Issue.
q Boiler Repairs and Renewals Account
r Repairs and Renewals Account.
s Silver Reserve Fund.
t Depreciation and Repair Account
u Underwriting Suspense Account.
v Special account
w Special Works Fund.
x Extra Reserve Fund.
y 72,560 owned by the Company.
z 7,200 shares unissued.
1 4,000 shares unissued.
2 First issue of 60,000, of which 10,411 unallotted.
3 5,000 shares unissued.
4 4,480 shares unissued.
5 5,000 shares unallotted.
6 1,616 shares unallotted.
7 75,000 shares unissued.
8 14,000 shares unissued.
9 17,000 shares unissued.
10 40,453 shares actually issued.
11 7,688 shares actually issued.
12 4,200 shares unissued.
13 500 shares unissued.
14 399 shares unissued.
15 22,277 shares unissued.
16 10,000 shares unissued.
17 Special shares are entitled to half of the profits.
18 Capital contributed by Chinese Government-Kuping Tls. 5,000,000.
19 12,000 issued only.
20 Typhoon and Floods Insurance Fund.
21 Special Cash Reserve.
22 1000 shares unissued.
23 10,000 shares unissued.
24 4595 part paid shares.
25 7,500 shares unissued.
26 10,000 shares unissued.
27 2,350 shares unissued.
28 25,000 shares unissued,
29 100,00 shares unissued.
30) 3.700 fully paid vendor shares and an option of 5,000 shares at par for 5 years granted to option holders.
*Based on last year's dividend.
** Based on present dividend.
§ 216 held by the Company.
‖ Only Tls. 134.000 taken up.
¶ In certificates of £20 and £100.
‡ Redeemable in 10 years, or at option of Comp., the Company giving 6 months notice.
† Redeemable at par at rate of £10,000 per annum from 31st December 1903 to 31st December 95.
*** Redeemable at par on 30th June, 1915.
*Dr.* Deficit.
†† Singapore dollars.
‡‡ 4,880 shares unissued.
× 16,756 shares unissued.
§§ 25,000 shares unissued.
¶ 140 shares unissued.

# ADDITIONAL SHANGHAI SHARE QUOTATIONS

**July 29, 1910**

| STOCK | CLOSING QUOTATIONS | HIGHEST AND LOWEST PRICES DURING THE WEEK | CAPITAL | NO. OF SHARES | VALUE | PAID UP | RESERVE | LAST DIVIDEND | WHEN PAID |
|---|---|---|---|---|---|---|---|---|---|
| Oriental Consolidated Mining Co., Ltd | 35[10 | | G. $5,000,000 | 500,000 | G. $10 | G. $10 | none | Interim of Gold 50 for 1910 | June. 10, 1910 |
| Vulcan Iron Works, Limited | Tls. 40 | | Tls. 500,000 | 1,000 | Tls. 500 | Tls. 500 | — | Tls. 50 for year ended 31.8.06 | Nov. 1, 1906 |
| Yangtsze Wharf & Godown Co., Limited | Tls. 207 | | Tls. 250,000 | 2,500 | Tls. 100 | Tls. 100 | Tls. 50,000 | Tls. 15 for 1909 | April 1, 1910 |
| Wei-hai-wei Land & Building Co., Limited | Tls. 9 nominal | | Tls. 91,850 | 3,674 | Tls. 25 | Tls. 25 | — | Interim of $2.00 for 1909 | Aug. 8, 1909 |
| Anglo-German Brewing Co., Limited | $85 buyers | | $100,000 | 4,000 | $100 | $100 | none | 5% for 1909 | Mar. 12, 1910 |
| Butler Tile Works, Limited | Tls. 25 | | Tls. 60,000 | 1,200 | Tls. 50 | Tls. 50 | — | Tls. 3 for year ending 31.3.09 | June 8, 1909 |
| Major Bros., Limited | Tls. 55 | | Tls. 300,000 | 6,000 | Tls. 50 | Tls. 50 | — | — | — |
| Oriental Ice Company, Limited | Tls. 20 | | Tls. 130,000 | 2,600 | Tls. 50 | Tls. 50 | — | First year | — |
| Scharffs Oil and Bone Mills, Ltd | Tls. 40 | | Tls. 200,000 | 4,000 | Tls. 50 | Tls. 50 | — | First year | — |
| Shanghai Ice Company, Limited | Tls. 12 | | Tls. 200,000 | 8,000 | Tls. 25 | | — | 3% for 1907 | Mar. 14, 1908 |
| Campbell, Moore & Co., Limited | $10 | | $12,000 | 1,200 | $10 | $10 | $9,000 | $3 for 1905 | Apr. 2, 1906 |
| Dunning & Company, Limited | $35 sellers | | $100,000 | 2,000 | $50 | $50 | — | $5 year ending 28.2.08 | Apr. 15, 1908 |
| J. Llewellyn & Co., Limited | $60 nominal | | $72,000 | 1,200 | $60 | $60 | — | 7.20 for 1909 | May 1, 1910 |
| Lane, Crawford & Company | $150 | | $250,000 | 2,500 | $100 | $100 | — | Final of 3% making 6% for 1908 | June 8, 1909 |
| S. Moutrie & Company, Limited | $40 | | $250,000 | 5,000 | $50 | $50 | — | $2 for year ended March 31, 1909 | June 18, 1909 |
| Weeks & Company, Limited | $23 | | $400,000 | 20,000 | $20 | $20 | $40,000 | Final of 6% making 10% for 1909 | June 1, 1910 |
| Dominion Rubber Co., Limited | Tls. 62½ | | Tls. 225,000 | 22,500 | Tls. 10 | Tls. 4 | — | First year | — |
| Kalumpong Rubber Co., Ltd | Tls. 700 | | Tls. 700,000 | 14,000 | Tls. 50 | Tls. 50 | ** Tls. 11,844.48 | 16% for 1908 | Nov. 9, 1909 |
| Senawang Rubber Estates Company, Limited | Tls. 1550 | | Tls. 250,000 | 2,500 | Tls. 100<br>Tls. 100 | Tls. 100<br>Tls. 75 | — | — | — |
| Tebong Rubber and Tapioca Estate, Limited | Tls. 48 | | £76,000 | 76,000 | £1 | £1 | — | — | — |
| Shanghai Mercury, Limited | Tls. 50 buyers | | Tls. 105,500 | 2,100 | Tls. 50 | Tls. 50 | — | Final of 6% making 16% year 1909 | June 22, 1910 |
| Shanghai Mutual Telephone Co., Limited | Tls. 67½ buyers | | Tls. 675,000 | 13,500 | Tls. 50 | Tls. 50 | — | Tls. 3 for 1907 | June 28, 1909 |
| China Export, Import & Lumber Company, Limited | Tls. 75 | | Tls. 350,000 | 500 | Tls. 100 | Tls. 50 | — | 5 p. c. for 1909 | May 1, 1910 |
| China Printing Co., Limited | Tls. | | Tls. 750,000 | 1,500 | Tls. 50 | Tls. 50 | — | 7% 1908 | Apr. 18, 1909 |
| Hirano Mineral Water Co., Ltd. | Y. 10 | | Y. 125,000 | 5,000 | Y. 25 | Y. 25 | — | 10%=yen 2½ for year ending 30th Sept. 08 Y. 1:20 for year ended Feb. 29 | Apr. 26, 1909 |
| E. E. Porter & Co., Limited | $50 | | $100,000 | 2,000 | $50 | $50 | — | $6 for 1907 | Apr. 22, 1908 |
| Shanghai Electric & Asbestos Company, Limited | $21 sellers | | $125,000 | 5,000 | $25 | $25 | — | 8% for year ended Feb. 28, 09 | June 21, 1909 |
| Shanghai Electric Construction Company, Limited | £6 sellers | £11 | £320,000 | 32,000 | £10 | £10 | — | First year | — |

# DEBENTURES

| LOANS | PRICE—PLUS ACCRUED INTEREST | AMOUNT OF LOAN | OUTSTANDING | NOMINAL VALUE | RATE OF INTEREST | WHEN PAYABLE |
|---|---|---|---|---|---|---|
| Shanghai Municipal Debentures 1892 | Tls. 92½ | Tls. 50,000 | Tls. 45,400 | Tls. 100 | 5 % | June & Dec. |
| do 1893 | ,, 96 | ,, 125,000 | " 32,000 | " 100 | 5½ ,, | Do |
| do 1894 | ,, 105 | ,, 105,000 | " 60,000 | " 100 | 6 ,, | Do |
| do 1895 | ,, 92½ | ,, 115,000 | " 32,600 | " 100 | 5 ,, | Do |
| do 1896 | ,, 92½ | ,, 140,000 | " 131,800 | " 100 | 5 ,, | Do |
| do 1897 | ,, 92½ | ,, 268,800 | " 268,400 | " 100 | 5 ,, | Do |
| do 1898 | ,, 105 | ,, 300,000 | " 60,000 | " 100 | 6 ,, | Do |
| do 1900 | ,, 96 | ,, 33,900 | " 31,700 | " 100 | 5½ ,, | Do |
| do 1901 | ,, 105 | ,, 250,000 | " 200,000 | " 100 | 6 ,, | Do |
| do 1902 | ,, 105 | ,, 150,000 | " 150,000 | " 100 | 6 ,, | Do |
| do 1903 | ,, 105 | ,, 490,500 | " 490,500 | " 100 | 6 ,, | Do |
| do 1904 | ,, 105 | ,, 214,500 | " 214,500 | " 100 | 6 ,, | Do |
| do 1905 | ,, 105 | ,, 320,000 | " 320,000 | " 100 | 6 ,, | Do |
| do 1907 | ,, 105 | ,, 250,000 | " 250,000 | " 100 | 6 ,, | Do |
| Chinese Imperial Government Loan 1886 E | ,, 250 | ,, 767,200 | " 354,400 | " 250 | 7 ,, | Mar. & Sept |
| Shanghai Land Investment Co., Debentures 1890 | ,, 103½ | ,, 250,000 | " 250,000 | " 100 | 6 ,, | May & Nov. |
| do 1892 | ,, 96 | ,, 250,000 | " 250,000 | " 100 | 5½ ,, | June & Dec. |
| do 1894 | ,, 103½ | ,, 250,000 | " 250,000 | " 100 | 6 ,, | Mar. & Sept. |
| do 1896 | ,, 92½ | ,, 250,000 | " 250,000 | " 130 | 5 ,, | June & Dec. |
| do 1900 | ,, 103½ | ,, 250,000 | " 250,000 | " 100 | 6 ,, | April & Oct. |
| do 1901 | ,, 104 | ,, 250,000 | " 250,000 | " 100 | 6 ,, | June & Dec. |
| do 1901 | ,, 96 | ,, 100,000 | " 100,000 | " 100 | 5 ,, | May & Nov. |
| do 1902 | ,, 103½ | ,, 400,000 | " 400,000 | " 100 | 6 ,, | June & Dec. |
| do 1905 | ,, 103½ | ,, 250,000 | " 250,000 | " 100 | 6 ,, | Do |
| Shanghai Waterworks Co., Debentures 1909 | ,, 103 | ,, 815,900 | " 815,900 | " 100 | 6 ,, | Do |
| Perak Sugar Cultivation Co., Debentures 1902 | ,, 101 | ,, 200,000 | " 200,000 | " 100 | 7 ,, | April & Oct. |
| Shanghai Gas Co., Debentures 1909 | ,, 103 | ,, 800,000 | " 800,000 | " 100 | 5 ,, | Do |
| Shanghai and Hongkew Wharf Co., Debentures 1902 | ,, 102 | ,, 839,100 | " 799,800 | " 100 | 6 ,, | June & Dec. |
| Astor House Co., Debentures 1905 | ,, 103 | ,, 750,000 | " 500,000 | " 100 | 7 ,, | Do |
| British Municipal Council, Hankow 1901 | Sh. ,, 105 | H'kow Tls 100,000 | H'kow Tls 100 000 | " 100 | 7 ,, | June & Dec. |
| Shanghai Club Debentures 1907 | ,, 100 | Tls. 170,000 | Tls. 170,000 | " 100 | 6 ,, | Do |
| Country Club Debentures | ,, 97 | ,, 139,000 | " 139,000 | " 100 | 6 ,, | Do |
| do 1907 | ,, 97 | ,, 92,000 | " 92,000 | " 100 | 6 ,, | Do |
| Lane Crawford & Co., Debentures 1907 | ,, 102½ | ,, 110,000 | " 110,000 | " 100 | 7 ,, | Mar. & Sept. |
| Anglo-French Land Debentures 1908 | ,, 102 | ,, 250,000 | " 250,000 | " 100 | 6 ,, | June & Dec. |
| Central Stores Ltd. Debentures 1908 | ,, 102½ | ,, 250,000 | " 250,000 | " 100 | 8 ,, | Do |
| Shanghai Mutual Tel. Co. Debentures 1909 | ,, 102½ | ,, 350,000 | " 200,000 | " 100 | 6 ,, | Do |

# SINGAPORE SHARE QUOTATIONS

(Courtesy Messrs. Fraser & Co., Brokers, Singapore, July 27, 1910)

| Date of Formation | Capital | Capital paid up | No. of Shares Issued | Issue Value | Paid up | Reserve | Last Dividend | Name | Buyers. | Sellers. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | **MINING** | | |
| 1903 | $300,000 | 300,000 | 30,000 | 10 | 10 | ........ | 10% interim for 1909 | Belat Tin Mining Co., Ltd. | 3.00 | 3.25 |
| 1907 | $300,000 | 225,000 | 22,500 | 10 | 10 | ........ | | Bruang Ltd. | 4.00 | 5.00 |
| 1901 | $600,000 | 600,000 | 60,000 | 10 | 10 | 25,000 | 6% for year ending 30-4-09 | Bruseh Hydraulic Tin Mining Co., Ltd. | 5.00 | 6.00 |
| 1907 | $400,000 | 375,000 | 37,500 | 10 | 10 | ........ | | Kanaboi, Ltd. | 2.00 | 2.30 |
| 1901 | £60,000 | 60,000 | 60,000 | 1 | 1 | ........ | 2[- interim 1909 | Kinta Tin Mines, Ltd. | 14.00 | 14.75 |
| 1905 | $150,000 | 99,000 | 9,900 | 10 | 10 | 6,485.68 | 35% for year ending 31-12-07 | Kuantan Tin Mining Co., Ltd. | 3.00 | 3.25 |
| 1906 | £120,000 | 120,000 | 120,000 | 1 | 1 | ........ | 1[- interim 1909. | Lahat Mines Ltd. | 8.50 | 9.00 |
| 1906 | $450,000 | 450,000 | 45,000 | 10 | 10 | ........ | | Malacca Tin Dredging Co., Ltd. | 2.00 | 2.75 |
| 1906 | £30,000 | 30,000 | 30,000 | 1 | 1 | ........ | | Malaya and Siam Corporation Ltd. | 7[6 | 10[- |
| 1906 | £250,000 | 179,500 | 500,000e | 5/- | 5/- | ........ | | Pahang Consolidated Co., Ltd. | 4[- | 5[- |
| 1907 | £100,000 | 80,000 | 80,000 | 1 | 1 | ........ | | Pengkalen. Ltd | 5.00 | 6.00 |
| 1904 | £100,000 | 80,000 | 80,000 | 1 | 1 | ........ | | Pusing Bahru Tin Mines, Ltd | 6.75 | 7.00 |
| 1904 | £120,000 | 100,000 | 100,000 | 1 | 1 | 6,000 | 45% for year ending 30-6-07 | Pusing Lama Tin Mines, Ltd. | .... | 3.00 |
| 1907 | $450,000 | 300,000 | 30,000 | 10 | 10 | ........ | | Rahman Hydraulic Tin, Ltd. | 9.75 | 10.25 |
| 1905 | £27,000 | 27,000 | 27,000 | 1 | 1 | ........ | 1[- for 1907 | Rambutan, Ltd. | 11.50 | 12.50 |
| 1892 | £200,000 | 200,000 | 200,000 | 1 | 1 | 4,873 | 1[2 paid April, 1910 | Raub Aust. Gold Ming. Co., Ltd, | 4.75 | 5.00 |
| 1905 | £40,000 | 40,000 | 40,000 | 1 | 1 | ........ | | Redhills Tin Mining Co., Ltd. | 3.00 | 3.50 |
| 1900 | $110,000 | 110,000 | 22,000 | 5 | 5 | ........ | 3% for year ending 22-1-09. | Royal Johore Tin Mining Co., Ltd. | 1.35 | 1.50 |
| 1907 | $550,000 | 500,000 | 50,000 | 10 | 10 | ........ | | Salak South, Ltd. | 1.75 | 3.00 |
| 1907 | £80,000 | 80,000 | 80,000 | 1 | 1 | ........ | | Sempam Tin Mines, Ltd. | 2.00 | 2.50 |
| 1906 | $850,000 | 850,000 | 85,000 | 10 | 10 | 25,000 | 5% interim 1909 | Serendah Hydraulic Tin Ming. Co., Ltd. | 5.75 | 6.50 |
| 1899 | $230,000 | 230,000 | 23,000 | 10 | 10 | ........ | 3% for ½ year ending 31-12-08 | Sipiau Tin Co., Ltd. | 1.50 | 2.00 |
| 1909 | $200,000 | $150,000 | 15,000 | 10 | 10 | ........ | | Sungei Gau Tin Mining Co., Ltd. | 4.00 | 5.00 |
| 1907 | £90,000 | 70,000 | 70,000 | 1 | 1 | ........ | 1[6 interim 1909 | Tekka, Limited | 22 00 | 24.00 |
| 1906 | £150,000 | 150,000 | 150,000 | 1 | 1 | ........ | 1[- interim 1909 | Tongkah Harbour Tin Dredging Co., Ltd. | 10.00 | 11.00 |
| 1902 | £160,000 | 160,000 | 160,000 | 1 | 1 | ........ | 3[- interim 1909 | Tronoh Mines, Ltd. | 13.00 | 13.50 |

## SINGAPORE SHARE QUOTATIONS.—(CONTINUED.)

| Date of Formation | Capital | Capital paid up | No. of Shares Issued | Issue Value | Paid up | Reserve | Last Dividend | Name | Buyers. | Sellers. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | **STERLING RUBBER** | | |
| 1909 | £85,000 | 75,000 | 750,000 | 2\|- | 2\|- | | | Allagar Rubber Estates, Ltd | 5\|9 | 6\|3 |
| 1905 | £150,000 | 150,000 | 1,500,000 | 2\|- | 2\|- | | 80% for 1909 | Anglo-Malay Rub. Co., Ltd. | 1.5.3 | 1.6.9 |
| 1909 | £50,000 | 35,250 | 470,000 | 2\|- | 1\|6 | | | Batang Malaka Rubber Estates, Ltd | 1\|- | 2\|- p. |
| 1904 | £30,000 | 20,187 10/- | 19,000<br>4,750*f* | 1<br>1 | 1<br>5/- | | 50% for 1909 | Batu Caves Rub. Co., Ltd | 17.0.0 | 17.10.0 |
| 1906 | £80,000 | 70,000 | 70,000*l** | 1 | 1 | | 2½% for 1909 | Batu Tiga (Selangor) Rubber Co., Ltd. | 5.5.0 | 5.12.6 |
| 1909 | £100,000 | 74,454 | 57,816<br>22,184*n** | 1<br>1 | 1<br>15\|- | | | Bukit Kajang Rubber Estates, Ltd<br>" " " *part paid* | 3.2.6<br>2.5.0 | 3.5.0<br>2.10.0p. |
| 1907 | £30,000 | 25,500 | 24,000<br>6,000 | 1<br>1 | 1<br>5 | | | Bukit Lintang Rubber Estates, Ltd<br>" " " *part paid* | 5.7.6<br>2.7.6 | 5.15.0<br>2.10.0p. |
| 1903 | £70,000 | 66,700 | 66,700 | 1 | 1 | 2,000 | 90% for 1909 | Bukit Rajah Rubber Co., Ltd. | 19.10.0 | 20.0.0 |
| 1906 | £35,000 | 30,000 | 30,000 | 1 | 1 | | | Castlefield (K.) R. Estate, Ltd. | 6.0.0 | 6.7.6 |
| 1909 | £225,000 | 175,000 | 1750,000 | 2\|- | 2/- | | | Chersonese (F.M.S.) Estates, Ltd | 4\|- | 4\|9 |
| 1904 | £16,000 | 16,000 | 100,000<br>60,000 | 2\|-<br>2/- | 2/-<br>2\|- | | 75% for 1909<br>78¾% for 1909 | Cicely Rubber Estates Co., Ltd<br>" " " " *5% Pref* | 2.10.0<br>2.10.0 | 2.12.6<br>2.12.6 |
| 1905 | £75,000 | 62,007 | 620,070 | 2\|- | 2\|- | 1,000 | 80% for 1909 | Consolidated Malay Rub. Estates, Ltd | 1.7.6 | 1.10.6 |
| 1906 | £110,000 | 102,500 | 102,500 | 1 | 1 | | 50% for 1909 | Damansara (Selangor) Rubber Co., Ltd. | 8.10.0 | 9.0.0 |
| 1903 | £600,000 | 447,200 | 447,200*a* | 1 | 1 | | | Duff Development Co., Ltd. | 16\|- | 16\|6 |
| 1909 | £45,000 | 40,000 | 400,000 | 2\|- | 2\|- | | 15% for 1909 | Edinburgh Rub. Estates, (Selangor) Ld. | 15\|- | 16\|- |
| 1907 | £80,000 | 70,000 | 70,000 | 1 | 1 | | 25% for 1909 | Golconda Rubber Co., Ltd. | 6.7.6 | 6.15.0 |
| 1906 | £310,000 | 305,000 | 305,000 | 1 | 1 | 8,784 | 35% for 1909 | Highlands & Lowds. Para Rub. Co., Ltd. | 6.0.0 | 6.6.9 |
| 1904 | £50,000 | 30,000 | 30,000 | 1 | 1 | 2,500 | 25% interim | Inch Kenneth Rubber Estates, Ltd | 15.15.0 | 16.5.0 |
| 1909 | £200,000 | 143,750 | 775,000*p*<br>105,000 | 2/-<br>1 | 1/-<br>1 | | | Kam. (P.) R. & T. Co., Ltd. "A" Shares<br>" " " "B" " | 6\|-<br>.... | 7\|- p.<br>nom. |
| 1905 | £65,000 | 65,000 | 65,000 | 1 | 1 | | 10% for 1909 | Kapar Para Rubber Estates, Co., Ltd. | 9.15.0 | 10.5.0 |
| 1909 | £35,000 | £17,250 | 95,000<br>155,000 | 2/-<br>2\|- | 2\|-<br>1\|- | | | Kota Tinggi Johore Rubber Co., Ltd.<br>" " " " | 3\|-<br>1\|- | 3\|6<br>1\|6 p |
| 1906 | £180,000 | 180,000 | 180,000 | 1 | 1 | | 30% interim | Kuala Lumpur Rubber Co., Ltd | 9.15.0 | 10.5.0 |
| 1907 | £100,000 | 90,000 | 900,000 | 2\|- | 2\|- | | 25% for 1909 | Labu (F. M. S.) Rub. Co., Ltd. | 19\|- | 20\|- |
| 1907 | £320,000 | £252,067\|10\|- | 198,930*v*<br>70,850 | 1<br>1 | 1<br>15/- | 3,000 | 27½% for 1909<br>27½% for 1909 | Lanadron Rubber Estates, Ltd.<br>" " " *part paid* | 6.15.0<br>5.10.0 | 7.0.0<br>6.0.0 p. |
| 1908 | £125,000 | 75,000 | 60,000*g**<br>40,000 | 1<br>1 | 1<br>7/6 | | 17½% for 1909<br>17½% for 1909 | Ledbury Rubber Estates Ltd.<br>" " " *part paid* | 3.12.6<br>2.2.6 | 4.0.0<br>3.10.0p. |
| 1895 | £100,000 | 98,324 8\|- | 883,244*w*<br>10,000 | 2/-<br>1 | 2/-<br>1 | 4,000 | 50% interim<br>7% for 1909 | Linggi Plantations Ltd.,<br>" " " *7% Pref* | 2.17.6<br>.... | 2.19.6<br>nom. |
| 1907 | £140,000 | 118,000 | 1,180,000*k* | 2\|- | 2\|- | | 12½% for 1909 | London Asiatic R. & Produce Co., Ltd. | 14\|- | 15\|- |
| 1909 | £220,000 | 147,500 | 50,000<br>150,000 | 1<br>1 | 1<br>13\|- | | | Lumut Rubber Estates, Ltd.<br>" " " " *part paid* | ....<br>1.0.0 | nom.<br>1.7.6 p. |
| 1906 | £400,000 | 300,000 | 185,000<br>115,000 | 1<br>1 | 1<br>1 | | 10% interim for 1909<br>" " " | Malacca Rubber Plants., Ltd.<br>" " " " *7½% Pref.* | 9.15.0<br>9.15.0 | 10.5.0<br>10.5.0 |
| 1909 | £210,000 | 175,000 | 1,750,000 | 2\|- | 2\|- | | | Merlimau Rubber Estates, Ltd | 7\|3 | 7\|6 |
| 1903 | £30,000 | 22,500 | 225,000 | 2\|- | 2\|- | | 125% for 1909 | Pataling Rubber Estates Synd. Ltd | 3.8.6 | 3.10.0 |
| 1906 | £85,000 | 85,000 | 85,000 | 1 | 1 | | 12½% interim 1909 | Perak Rubber Plantations, Ltd | 6.0.0 | 6.5.0 |
| 1909 | £60,000 | 36,875 | 15,000*z**<br>35,000 | 1<br>1 | 1<br>12\|6 | | | Rembia Rubber Estates Ltd.<br>" " " *6% Cum. Pref* | ....<br>9\|- | nom.<br>10\|6 p. |
| 1904 | £25,000 | 19,092 | 17,732*u*<br>2,268 | 1<br>1 | 1<br>12\|- | | 25% interim | Sagga Rubber Company, Limited | 16.0.0 | 16.10.0 |
| 1905 | £100,000 | 100,000 | 71,378<br>28,622*l*‡ | 1 | 1 | | | Sapong Rubber and Tobacco Estates, Ltd. | 1.5.0 | 1.10.0 |
| 1907 | £100,000 | 100,000 | 100,000 | 1 | 1 | | 15% for 1909 | Seafield Rubber Co., Ltd | 7.7.6 | 7.15.0 |
| 1898 | £30,000 | 30,000 | 300,000 | 2\|- | 2\|- | 3,000 | 287½% for 1909 | Selangor Rubber Co., Ltd | 3.13.6 | 3.16.0 |
| 1909 | £50,000 | 32,000 | 40,000 | 1 | 16\|- | | | Sendayan (F. M. S.) Rubber Co., Ltd | 1.17.6 | 2.2.6 p. |
| 1906 | £65,000 | 65,000 | 65,000 | 1 | 1 | | 7½% for 1909 | Shelford Rubber Estate, Ltd | 3.18.0 | 4.2.0 |
| 1909 | £150,000 | 78,500 | 14,000*i*‡<br>86,000 | 1<br>1 | 1<br>15\|- | | | Sialang Rubber Estates, Ltd | 1.7.6 | 1.10.0p. |
| 1909 | £120,000 | 100,000 | 100,000 | 1 | 1 | | | Singapore Para Rubber Estates, Ltd. | 3.12.6 | 3.17.6 |
| 1906 | £192,500 | 192 500 | 1.925,000 | 2\|- | 2\|- | | 7½% interim | Straits Settlements (B.) Rub. Co., Ltd | 7\|6 | 8\|- |
| 1907 | £45,000 | 45,000 | 45,000 | 1 | 1 | | | Sungei Choh Rub. Estate, Co. Ltd. *Fully pd.* | 5.2.6 | 5.10.0 |
| 1906 | £110,000 | 100,000 | 1,000,000 | 2\|- | 2\|- | | 37½% for 1909 | Sungei Kapar Rubber Co., Ltd | 17\|-3 | 18\|- |
| 1907 | £70,000 | 55,000 | 55,000 | 1 | 1 | | | Sungei Salak Rubber Co., Ltd | 4.12.6 | 4.17.6 |
| 1904 | £50,000 | 50,000 | 50,000 | 1 | 1 | | | Sungei Way (Selangor) Rub. Co., Ltd | 6.2.6 | 6.12.6 |
| 1908 | £150,000 | 60,000 | 36,000<br>64,000 | 1<br>1 | 1<br>7\|6 | | | Tebrau (Johore) Rubber Co<br>" " " *part paid* | 4.15.0<br>3.2.6 | 5.0.0<br>3.7.6 p. |
| 1907 | £200,000 | 170,000 | 170,000 | 1 | 1 | | 5% interim | United Serdang (S.) R. Plantations, Ltd. | 6.15.0 | 7.5.0 |
| 1908 | £85,000 | 65,000 | 650,000 | 2\|- | 2\|- | | 10% for year ending 30-6-09 | United Sumatra Rubber Estates, Ltd. | 12\|- | 12\|9 |
| 1904 | £60,000 | 50,600 | 506,000 | 2\|- | 2\|- | | 66⅔% interim 1909 | Vallambrosa Rubber Co., Ltd. | 2.12.0 | 2.13.6 |
| | | | | | | | | **DOLLAR** | | |
| 1909 | $120,000 | 105,000 | 105,000*w** | 1 | 1 | | | Alor Gajah Rubber Estate, Ltd | 2.50 | 3.00 |
| 1909 | $750,000 | 700,000 | 140,000 | 5 | 5 | | | Ayer Panas Rubber Estates, Ltd | 10.00 | 10.50 |
| 1905 | $200,000 | 151,200 | 151,200 | 1 | 1 | 5,250 | 40% interim | Balgownie Rub. Estate, Ltd | 17.00 | 18.00 |
| 1910 | $500,000 | 500,000 | 50,000 | 10 | 10 | | | Bukit Timah Rubber Estates, Ltd | 20.00 | 22.00 |
| 1910 | $750,000 | 700,000 | 70,000 | 10 | 10 | | | Changkat Serdang Estates. Ltd | 12.50 | 13.00 |
| 1909 | $300,000 | 300,000 | 300,000 | 1 | 1 | | | Glenealy Plantations, Ltd | 2.50 | 2.75 |
| 1910 | $200,000 | 144,285 | 12,857*m*‡<br>20,000 | 5<br>5 | 5<br>4 | | | Haytor Rubber States, Ltd<br>" " " " *part paid* | ....<br>2.00 | nom.<br>5.00 p. |
| 1910 | $600,000 | 150,000 | 30,000 | 10 | 5 | | | Henrietta Estates, Ltd. | 2.00 | 3.00 p. |
| 1906 | $680,000 | 680,000 | 40,000 | 17 | 17 | | | Hevea Rubber Planting Co. Ltd | 18.00 | 20.00 |
| 1909 | $250,000 | 200,000 | 20,000 | 10 | 10 | | | Indragiri (S.) R. and Gutta P. Co., Ltd. | 23.00 | 24.00 |
| 1910 | 350,000 | 291,000 | 11,000<br>59,000 | 5<br>5 | 5<br>4 | | | Kelemak Rubber Estate, Ltd<br>" " " *part paid* | 4.50<br>0.50 dis. | 5.00<br>par. |
| 1907 | $300,000 | 140,000 | 20,000 | 10 | 7 | | | Kombok Rubber Co., Ltd | 20.00 | 25.00p. |
| 1910 | $1,000,000 | 1,000,000 | 500.000 | 2 | 2 | | | Malakoff Rubber Co., Ltd | 2.15 | 2.40 |
| 1909 | $400,000 | 400,000 | 80,000 | 5 | 5 | | 5% interim | Pajam Limited | 15.25 | 15.75 |
| 1909 | $200,000 | 200,000 | 200,000 | 1 | 1 | | | Pantai, Limited | 1.80 | 1.90 |
| 1909 | $500,000 | 450,000 | 45,000 | 10 | 10 | | 7½% interim | Pegoh, Limited | 35.00 | 37.00 |
| 1910 | $450,000 | 295,000 | 45,000*f*‡<br>35,000 | 5<br>5 | 5<br>2 | | | Port Dickson Rubber Co., Ltd<br>" " " | 14.00<br>5.00 | 15.00<br>6.00 p. |
| 1904 | $100,000 | 100,000 | 50,000*b** | 2 | 2 | 20,000 | 50% pending | Sandycroft Rubber Co., Ltd | 34.00 | 35.00 |
| 1905 | $500,000 | 500,000 | 5,000 | 100 | 100 | | | Singapore Rubber Co., Ltd | 475.00 | 500.00 |
| 1903 | $450,000 | 417,300 | 208,650 | 2 | 2 | | 25% interim | Singapore & Johore Rub. Co. Ltd | 15.00 | 16.00 |
| 1909 | $250,000 | 100,000 | 10,000 | 10 | 10 | | | St. Helena Rubber Coy., Ltd | 40.00 | 45.00 |
| 1909 | $200,000 | 165,000 | 33,000 | 5 | 5 | | | Teluk Anson Rubber Estate, Ltd | 6.50 | 7.50 |
| 1909 | $1,000,000 | 637,500 | 737,500*y** | 1<br>1 | 1<br>-\|50 | | | United Singapore Rubber Estates, Ltd.<br>" " " " " | 1.50<br>.... | 1.80<br>nom. |
| | | | | | | | | **GENERAL** | | |
| 1903 | £400,000 | 400,000 | 400,000 | 1 | 1 | | | Singapore Electric Tramways, Co., Ltd. | 4\|3 | 4\|6 |
| 1907 | $1,500,000 | 1,065,150 | 25,000*d**<br>116,450 | 10<br>10 | 10<br>7 | | 10% for year ending 31/12/08<br>10% for year ending 31-12-08 | Eastern Smelting Co. Ltd<br>" " " *part paid* | ....<br>.... | 10.00 n.<br>6.00 n. |
| 1898 | $225,000 | 225,000 | 4,500 | 50 | 50 | 170,000 | 15% & 5% bon. for yr. end. 31-12-09 | Fraser & Neave, Ltd. | 210.00 | 215.00 |
| 1905 | $2,400,000 | 2,400,000 | 18,000<br>6,000 | 100<br>100 | ——<br>—— | 75,000 | 2½% for year ending 31-10-08<br>7% for year ending 31-10-08 | Howarth Erskine, Ltd<br>" " *7% Pref* | 58.00<br>91.00 | 60.00<br>95.00 |
| 1896 | $1,000,000 | 1,000,000 | 6,000<br>4,000 | 100<br>100 | 100<br>100 | 40,600 | 12% for year ending 31-12-09<br>8% " " " "09 | Katz Brothers, Ltd. *Deferred*<br>" " *8% Cum. Pref* | ——<br>—— | 125.00<br>nom. |
| 1901 | $34,000 | 34,000 | 3,400 | 10 | 10 | | 20% for year ending 31-10-09 | Maynard & Co., Ltd. | 22.00 | 23.00 |
| 1899 | $875,000 | 875,000 | 6,000<br>2,750 | 100<br>100 | 100<br>100 | 175,000 | 5% for year ending 31/12/09<br>7% for year ending 31/12/09 | Riley, Hargreaves & Co., Ltd<br>" " " " *7% Pref* | 77.50<br>102.00 | 82.50<br>.... |
| 1897 | £3,500,000 | 3,500,000 | 2,500,000<br>100,000 | 1<br>10 | 1<br>10 | 1,120,000 | 22½% for 1909 | Shell Transport and Trading Co., Ltd.<br>" " " " " *Pref.* | 5.0.0<br>11.5.0 | 5.2.6<br>12.0.0 |
| 1903 | $600,000 | 250,000 | 25,000*n* | 10 | 10 | | 10% for year ending 30-6-09 | Singapore Cold Storage Co., Ltd | 15.00 | 16.00 |
| 1891 | $30,000 | 30,000 | 600 | 50 | 50 | 23,000 | 10% for year ending 31-7-09 | Singapore Dispensary Ltd. | 50.00 | 52.50 |
| 1884 | $200,000 | 200,000 | 2,000 | 100 | 100 | 75,000 | 15% for year ending 31-12-09 | Straits Ice Co., Ltd | 160.00 | 165.00 |
| 1890 | $500,000 | 498,000 | 4,980 | 100 | 100 | 760,000*q* | 10% for year ending 31-12-09 | Straits Steam Ship Co., Ltd | 215.00 | 225.00 |
| 1887 | $3,000,000 | 3,000,000 | 300,000 | 10 | 10 | 130,000*r*<br>1,222,409 | 10% & 5% bon. for half yr. end. 31\|3\|10 | Straits Trading Co., Ltd | 57.00 | 57.50 |
| | | | | | | | | **DEBENTURES** | | |
| | | | | | | | | Howarth Erskine, Ltd. 6% ........ $ 600,000 | .... | par. |
| | | | | | | | | Riley, Hargreaves & Co., Ltd. 6% ,284,000 | 1% | 3% p. |
| | | | | | | | | Singapore Electric Tramways, Co., Ltd. 5% ........ £350,000 | .... | .... |
| | | | | | | | | Singapore Municipal 5% ........ 1,878,000 | .... | nom. |
| | | | | | | | | " " 4½% of 1907 ... 1,600,000 | 6% | 7% p. |
| | | | | | | | | " " 4½% of 1909 ... 1,000,000 | 7% | 8% p. |
| | | | | | | | | " 4% ........ 602,900 | .... | 7% d. |

*a* { 152,800 unissued / 43,949 6% debenture
*e* { 54,500 £1 Prefs. issued / 45,500 £1 " unissued / 100,000 5|- Ord. "
*f* 6,250 unissued
*k* £40,000 6% Debentures 220,000 unissued

*p* 175,000 unissued "A" shares
*q* Sundry Reserves.
*r* "
*u* 5,000 issued £1 prem.
*v* 50,220 unissued
*w* 16,756 "

*b** 221 7½% Debentures
*d** 8,550 unissued
*g** 25,000 "
*l** £10,000 Convertible 6% Debentures issued £10,000 do. unissued
*n** 20,000 unissued

*y** 262,500 "
*z** 10,000 "
*i*‡ 50,000 "
*l*‡ 6% Deb. Stock Convertible.
*m*‡ 7,143 unissued.

# YOKOHAMA SHARE QUOTATIONS

COURTESY A. C. HUTTON POTTS, SHARE AND GENERAL BROKER, YOKOHAMA, JULY 21ST, 1910.

| STOCKS. | CAPITAL. | NO. OF SHARES. | ISSUE VALUE. | AMOUNT PAID UP. | DATE. | LAST DIVIDEND. | FOR TERM. | CLOSING QUOTATION. |
|---|---|---|---|---|---|---|---|---|
| Brett & Co., Ltd. | -Y- 28,000 | 2,800 | -Y- 10 | -Y- 10 | 31-12-09 | 12½% | for 1 year | 15 Sellers |
| Club Hotel, Ltd. | 185,000 | 1,850 | 100 | 100 | 31-3-10 | 6% | for 1 year | 70 Nominal |
| Grand Hotel, Ltd. | 500,000 | 5,000 | 100 | 100 | 31-12-09 | 2½% | for ½ year | 95 Sales. |
| Helm Bros., Ltd. | 186,000 | 3,720 | 50 | 50 | 31-12-09 | 17½% | for 1 year | 85 Nominal. |
| Langfeldt & Co., Ltd. | 100,000 | 2,000 | 50 | 50 | 31-12-09 | 10% | for 1 year | 60 Sellers. |
| C. Nickel & Co., Ltd. † | 500,000 | 20,000 | 25 | 25 | 31-10-09 | 20% | for 1 year | 50 Sales. |
| Thwaites, Limited | 100,000 | 2,000 | 50 | 50 | First Year | — | — | |
| Yokohama Engine and Iron Works * | 500,000 | 10,000 | 50 | 50 | 31-5-09 | — | for 1 year | 50 Nominal |
| Oriental Hotel, Ltd., Ordinary | 250,000 | 3,000 | 50 | 50 | 31-8-07 | 12% | for 1 year | 50 Sales. |
| Oriental Hotel, Ltd., Preference | | 2,000 | 50 | 50 | | 8% | for 1 year | 52:50 Sales |
| The Union Estate and Investment Co., Ltd. ‡ | 1,000,000 | 10,000 | 100 | 100 | 30-9-09 | 6½% | for 1 year | 100 Nominal. |
| The Clifford Wilkinson Tansan Mineral Water Co., Ltd. § | 500,000 | 5,000 | 100 | 100 | 31-12-09 | 7% | for 1 year | 97 Sales. |

† 285,000 unissued.
‡ 475,000 unissued.
*-Y- 390,000 issued.
§-Y- 375,800 issued.

| DEBENTURE LOANS. | AMOUNT OF LOAN. | FACE VALUE OF DEBENTURES. | RATE OF INTEREST. | INTEREST PAYABLE. | CLOSING QUOTATION. |
|---|---|---|---|---|---|
| Brett & Company, Limited | 11,500.00 | 100.00 | 7% | 1 June and 1 Dec. | 95 Sales. |
| Yokohama United Club | 230,000.00 | 100.00 | 6% | 30 June and 31 Dec. | 102 Nominal. |
| Oriental Hotel, Limited | 350,000.00 | 100.00 | 8% | 1 April and 1 Oct. | 103 Sales. |
| Union Estate and Investment Co., Limited | 250,000.00 | 100.00 | 6% | 30 June and 31 Dec. | 95 Sellers. |

| JAPANESE STOCKS. | FACE VALUE. | AMOUNT PAID UP. | LAST DIVIDEND. | DIVIDEND PAYABLE. | CLOSING QUOTATION. |
|---|---|---|---|---|---|
| **Bonds & Debentures.** | | | | | |
| Exchequer Bonds 2nd issue | -Y-100 | -Y-100 | 5% | March and Sept. | -Y-101.20 |
| Exchequer Bonds 3rd issue | 100 | 100 | 5% | March and Sept. | ,, 101.20 |
| Railway Bonds (Ko-Gobu) | 100 | 100 | 5% | June and Dec. | ,, 101.40 |
| 4% Imperial Loan Bonds (1st issue) | 100 | 100 | 4% | June and Dec. | ,, 95.10 |
| 4% Imperial Loan Bonds (2nd issue) | 100 | 100 | 4% | March and Sept. | ,, 95.80 |
| Imperial 5% Bonds | 100 | 100 | 5% | March and Sept. | ,, 101.30 |
| Special 5% Bonds (issued 1906) | 100 | 100 | 5% | June and Dec. | ,, 100.10 |
| Yokohama Water Works Bonds | 100 | 100 | 6% | June and Dec. | ,, 103.00 |
| Yokohama City Public Loan Bonds | 100 | 100 | 6% | March and Sept. | ,, 104.00 |
| Osaka City Harbour Construction Bonds | 100 | 100 | 6% | June and Dec. | ,, 103.00 |
| Osaka City Public Loan Bonds | 100 | 100 | 6% | June and Dec. | ,, 103.00 |
| Kawasaki Dock Yards Co.'s Debentures | 100 | 100 | 7% | June and Dec. | ,, 103.00 |
| Tokyo Race Associations | 500 | 500 | 30% | June and Dec. | ,, 180.00 |
| **Railways & Electric Trams.** | | | | | |
| Tokyo Railway Company, Limited | 50 | 50 | 5 2\|5% | June and Dec. | ,, 74.40 |
| Yokohama Electric Tramway Company, Limited | 50 | 50 | 6% | July and Jan. | ,, 54.00 |
| Keihin Electric Tramway Company, Limited | 50 | 50 | 6% | June and Dec. | ,, 53.50 |
| Southern Manchurian Railway Co., Ltd. | 100 | 20 | 6% | June and Dec. | ,, 46.00 |
| Hanshin Electric Tramway Co., Ltd. | 50 | 50 | 12% | May and Nov. | ,, 130.00 |
| **Cotton Spinnings.** | | | | | |
| Kanegafuchi Cotton Spinning Company, Limited | 50 | 50 | 14% | July and Jan. | ,, 107.20 |
| Fuji Gassed-yarn Company, Limited | 59 | 50 | 14% | July and Jan. | ,, 94.95 |
| Tokyo Cotton Spinning Company, Limited | 50 | 50 | 8% | July and Jan. | ,, 44.05 |
| Imperial Hemp Weaving Company, Limited | 50 | 50 | 12% | July and Jan. | ,, 68.00 |
| Nisshin Boseki Kabushiki Kaisha | 50 | 17½ | 7% | —— | ,, 14.35 |
| **Sugar & Beer Cos.** | | | | | |
| Dai-nippon Sugar Refinery Company, Limited | 50 | 50 | ....... | May and Nov. | ,, 35.50 |
| Ensuiko Sugar Refinery Company, Limited | 50 | 20 | 20% | June and Dec. | ,, 52.60 |
| Dai-nippon Beer Company, Limited | 50 | 50 | 12% | July and Jan. | ,, 81.65 |
| Kirin Brewery Company, Limited | 50 | 50 | 7% | July and Jan. | ,, 53.50 |
| **Docks & Steamships.** | | | | | |
| Yokohama Dock Company, Limited | 50 | 33 | 12% | June and Dec. | ,, 64.50 |
| Uraga Dock Company, Limited | 50 | 50 | ....... | July and Jan. | ,, 7.50 |
| Kawasaki Dockyard Company, Limited | 50 | 50 | 12½% | Feb. and Aug. | ,, 54.00 |
| Nippon Yusen Kaisha | 50 | 50 | 10% | May and Nov. | ,, 98.00 |
| Hokkaido Tanko S. S. Company, Limited | 50 | 50 | 5% | July and Jan. | ,, 28.15 |
| **Miscellaneous** | | | | | |
| Tokyo Electric Light Company, Limited | 50 | 50 | 12% | June and Dec. | ,, 110.60 |
| Tokyo Gas Company, Limited | 50 | 50 | 13% | July and Jan. | ,, 116.00 |
| Yokohama Union Electric Light Company, Limited | 50 | 50 | 14% | June and Dec. | ,, 112.00 |
| Fuji Paper Mills | 50 | 50 | 6% | June and Dec. | ,, 27.50 |
| Otaru Timber Company, Limited | 50 | 50 | ....... | March and Sept. | ,, 8.00 |
| Hoden Petroleum Company, Limited | 50 | 50 | 20% | April and Oct. | ,, 72.05 |
| Tokyo Rope Manufacturing Company, Limited | 50 | 50 | 18% | June and Dec. | ,, 112.00 |
| Japan Horse Improvement Company, Limited | 50 | 50 | ....... | March and Sept. | ,, 14.00 |
| Tokyo Stock Exchange Company | 50 | 50 | 15 1\|5% | June and Dec. | ,, 220.30 |
| Osaka Electric Light Company, Limited | 50 | 50 | 16% | July and Jan. | ,, 147.00 |
| Kobe Electric Light Company, Limited | 50 | 50 | 14% | July and Jan. | ,, 103.00 |

# BANGKOK SHARE QUOTATIONS

(COURTESY MESSRS. EDWARDS & CO., BANGKOK, SIAM.) JULY 1, 1910

| NAME. | BUYERS. | SELLERS. | LAST SALES. | ESTABLISHED. | CAPITAL. | NO. OF SHARES. | ISSUE VALUE. | AMOUNT PAID UP. | RESERVE FUND | LAST DIVIDEND |
|---|---|---|---|---|---|---|---|---|---|---|
| Siam Electricity Co., Ltd. | Tcs. 300 | Tcs. 325 | Tcs. 325 | 1901 | £ 300.000 | 30,000 | £ 10— | £ 300.000 | Tcs. 491.338 | 12% Tcs. 4 bon. |
| Paknam Railway Co., Ltd | ,, 200 | ,, — | ,, 220 | 1893 | Tcs. 400,000 | 5,000 | Tcs. 80 | Tcs. 400,000 | ,, [illegible]7,566 | 14% |
| Siam Tramway Co., Ltd | ,, — | ,, — | ,, 108 | 1905 | ,, 1,450,000 | 250 Shares<br>7250 Deb.<br>1000 P. Shares | ,, 100 | ,, 2,230,000 | ,, 1,875 | — |
| Meklong Railway Co., Ltd | ,, 90 | ,, 100 | ,, 90 | 1907 | ,, 2,230,000 | 22.300 | ,, 100 | ,, 223,000 | ,, 28 000 | 5% |
| Bangkok Manufact. Co., Ltd | ,, — | ,, — | ,, 132 | 1898 | ,, 400.000 | 4 000 | ,, 100 | ,, 400.000 | ,, 60,000 | 7% per for 6 months |
| Bangkok Dock Co., Ltd | ,, — | ,, 135 | ,, 135 | 1865 | ,, 1,000.000 | 10.000 | ,, 100 | ,, 950.000 | ,, 220.000 | |
| Siam Steam Packet Co. | ,, 80 | ,, 909 | ,, 90 | 1898 | ,, 190 000 | 3.800 | ,, 50 | ,, 190.000 | ,, 34.000 | 5% |
| Siam Commercial Bank | ,, 1,000 | ,, 1,500 | ,, 1,000 | 1906 | ,, 3,000.000 | 3 000 | ,, 1,000 | ,, 3,000 000 | ,, 338,850 | 4% for 6 mos. |
| Menam Motor Boat Co. | ,, 75 | ,, 90 | ,, 90 | 1905 | ,, 200.000 | 2,000 | ,, 100 | ,, 200.000 | — | none |
| Transport Co., Motor | ,, — | ,, 75 | ,, 100 | 1906 | ,, 200 000 | 2,000 | ,, 100 | ,, 200,000 | — | — |
| Jenderata Rubber Co * | ,, — | ,, 325— Ticals | ,, 325 (for six calls) | 1906 | £ 40,000 | 4,000 | £ 10 | £ 7.-paid | — | — |
| Bagan Rubber Co. | ,, — | ,, 100 | ,, 100 | 1907 | Tcs. 300.000 | 3.000 | Tcs 100 | Tcs. 40 per share | — | — |
| Siam Steam Navigation Co., Ltd | ,, 300 | ,, 325 | ,, — | 1909 | ,, 2.000 000 | 10,000 | ,, 200 | — | ,, 10,000 | — |
| Siam Stone Works, Ltd. | ,, — | ,, — | 100 | 1909 | ,, 350.000 | 3.500 | ,, 100 | ,, 350.000 | — | 6% half year |
| Kombok Rubber Co | ,, 25 | ,, 35 | 32 | 1906 | $ 300,000 | 30,000 | $ 100 | $7, per Share | — | — |

# PHILIPPINE SHARE REPORT

AUGUST 10, 1910

| NAME | WHEN INCORPORATED | AUTHORIZED CAPITAL | ISSUE VALUE OF SHARE | NO. OF SHARES | SUBSCRIBED | PAID UP | RESERVE | WORKING % | DATE | LAST DIVIDEND | CLOSING QUOTATIONS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| American Drug Store | 1908 | ₱ 100,000 | ₱1,000 | 100 | 40 | ₱1,000 | ...... | ₱ 5,000 | Jan. 4, 1909.. | .................... | No sellers. |
| *Banco Español Filipino | 1851 | 3,000,000 | 200 | 15,000 | 8,439 | 200 | ₱225,000 | ........ | ............ | 7% for year 1909.... | 200 buyers |
| Benguet Consolidated Mining Co.... | 1903 | 2,000,000 | 2 | 1,000,000 | 495,000 | 2 | ...... | 38,000 | Feb. 2, 1909.. | .................... | ₱1.00. |
| Benguet Commercial Co., Ltd..... | 1908 | 200,000 | 10 | 20,000 | 7,360 | 10 | ...... | .. ..... | ............ | 7% for year 1907.... | ₱10. |
| Bua Mining Co | 1905 | 300,000 | 100 | 3,000 | 2,620 | 100 | ...... | 12,900 | Dec. 5 1909. | .................... | ₱100. |
| Cadwallader-Gibson Lumber Co... | 1908 | 1,000.000 | 100 | 10,000 | 8,650 | 100 | ...... | ........ | ............ | .................... | No sellers. |
| *Camote-Clayton Mining Co | 1909 | 400,000 | 10 | 40,000 | 20,000 | 10 | ...... | ........ | ............ | .................... | ₱10. |
| *Compania Maritima | ...... | 1,018,000 | 200 | 5,090 | 5,090 | 200 | ...... | ........ | ............ | .................... | ₱50 sales |
| *El Varadero de Manila | ...... | 350,000 | 100 | 3,500 | 3.500 | 100 | ...... | ........ | ............ | .................... | Sellers 70 |
| Electrical Supply Co., Inc | 1909 | 100,000 | 100 | 11,000 | 500 | 72 | ...... | ........ | ............ | .................... | No sellers |
| Export & Import Lumber Co | ...... | 200,000 | 200 | 1,000 | 1,000 | 200 | ...... | ........ | ............ | .................... | No sellers. |
| *Fabrica de Hielo de Manila | 1894 | 350,000 | 50 | 7,000 | 7,000 | 50 | ...... | ........ | ............ | 18% for year 1908... | ₱75 sales. |
| *Germinal Cigar Factory | 1900 | 500,000 | 500 | 1,000 | 1,000 | 500 | ₱143,499 | 639.41 | Dec. 31, 1909 | 15% for year 1909 and 6% on capital...... | 500 sellers. |
| H. E. Heacock Co | 1909 | 100,000 | 100 | 1,000 | 800 | 100 | ...... | ........ | ............ | First year........... | No sellers. |
| *Headquarters Mining Co. (Inc.)... | 1908 | 600,000 | 10 | 60,000 | 35,000 | 10 | ...... | ........ | ............ | .................... | ₱10 buyers. |
| Insular Lumber Co | 1907 | 2,000,000 | 200 | 10,000 | 9,000 | 200 | ...... | ........ | ............ | .................... | No sellers. |
| Juan Seiboth Co., Ltd | 1908 | 150,000 | 20 | 7,500 | 500 | 20 | ...... | ........ | ............ | First year........... | ............ |
| *La Concha Button Factory | 1905 | 75,000 | 100 | 750 | 750 | 100 | ...... | ........ | ............ | 15% for year 1909... | ₱110 sellers. |
| Lambert, Springer Co | 1908 | 200,000 | 1,000 | 200 | 80 | 1.000 | ...... | ........ | ............ | .................... | No sellers. |
| Luzon Stevedoring Co | 1909 | 250,000 | 25 | 10,000 | 4,200 | 25 | ...... | ........ | Sept 15, 1909 | 15%.............. | ₱30. |
| Mindanao Herald Publishing Co... | 1907 | 15.000 | 100 | 150 | 75 | 100 | ...... | ........ | Dec. 31, 1908. | ½ of 1% interim for 1908 | No sellers. |
| Newspaper Publishing Co | 1907 | 400,000 | 100 | 4,000 | 3,740 | 100 | ...... | ........ | ............ | .................... | ............ |
| Minas Carbon de Batan | 1902 | 1,000,000 | 200 | 5,000 | 1,523 | 200 | ...... | 136,812 | ............ | .................... | 200 |
| Walter E. Olsen Co., Inc | 1909 | 500.000 | 100 | 5,000 | 2,033 | 100 | ...... | ........ | ............ | First year........... | No sellers. |
| Paracale Gold Dredging Co | 1907 | £10,000 | £1 | 10,000 | 9,000 | £1 | ...... | ........ | ............ | .................... | No sellers. |
| Palomar Park Amusement Co | 1908 | 300,000 | ...... | 300,000 | 60,312 | .50 | ...... | ........ | ............ | .................... | ₱1. |
| Phil. Hemp Machine Co., Ltd | 1907 | 1,000,000 | 100 | 10,000 | 8,500 | 100 | ...... | ........ | ............ | .................... | ₱100 |
| Philippine Publishing Co | 1907 | 600,000 | 200 | 3,000 | 2,181 | 200 | ...... | ........ | Mar. 1st, 1909 | ₱3 a share for 1908.. | ₱50 |
| Port Banga Lumber Co | 1908 | 100,000 | 100 | 1,000 | 934 | 100 | None. | 40,000 | First Saturday in January.. | None............... | No sellers. |
| The Philippine Gold Dredging Co... | 1907 | 200,000 | 10 | 20,000 | 20,000 | 10 | ...... | ........ | ............ | .................... | No sellers. |
| *Philippine Co., Ltd | .... . | 750,000 | 10 | 7,500 | 7,500 | 10 | ...... | ........ | ............ | .................... | ₱5 buyers. |
| Philippine Rosin & Turpentine Co.. | ...... | 150,000 | 1 | 150,000 | 70,000 | 1 | ...... | ........ | ............ | First year........... | ............ |
| Philippine Exploration Co | 1908 | 2,000,000 | 10 | 200,000 | 90,000 | 10 | ...... | ........ | ............ | .................... | 9 buyers |
| The Rosenstock Pub. Co | 1908 | 75,000 | 10 | 7,500 | 6,000 | 10 | ...... | ........ | ............ | .................... | No sellers. |
| *San Nicolas Iron Works | ..... | 300,000 | 500 | 600 | 600 | 500 | ...... | ........ | ............ | .................... | ₱200 sellers. |
| San Mauricio Gold Mining Co | 1908 | 4,000,000 | 200 | 20,000 | .... | ....... | ...... | | ............ | First year........... | ₱200. |
| Tarlac Railway Co | 1906 | 150,000 | 100 | 1,500 | 1,500 | 100 | ...... | ₱23,329 | June 30, 1908. | .................... | No sellers. |
| Union Hemp Machine Co | 1909 | 50,000 | 10 | 5,000 | 2,600 | 10 | ...... | ........ | ............ | .................... | No sellers |
| Zamboanga Cold Storage Co | 1903 | 40,000 | 100 | 400 | 200 | 100 | ₱8,500 | .......... | May 1st, 1909. | 20%.............. | ₱120. |

* John T. Macleod's share list

# PHILIPPINE BONDS

| | DATED | AUTHORIZED | ISSUED | OUTSTANDING | PAR VALUE | RATE OF INT. | WHEN PAYABLE | LAST QUOTATION |
|---|---|---|---|---|---|---|---|---|
| Philippine Friar Land Bonds | Feb. 1st, 1904 | $7,000,000 | $7,000,000 | $7,000,000 | $ 100 | 4% | Feb. 1, 1914 | 104[illegible] |
| Public Works and Permanent Improvement Bonds | March 1, 1905 | $5,000,000 | $2,500,000 | $2,500,000 | $ 100 | 4% | March 1, 1915 | 104[illegible] |
| Do. | Feb. 1, 1906 | .................. | $1.000,000 | $1,000,000 | $ 100 | 4% | Feb. 1, 1916 | 104[illegible] |
| Manila Sewer and Water Works Improvement Bonds | June 1, 1905 | $4,000,000 | $1,000,000 | $1,000,000 | $ 100 | 4% | June 1, 1915 | 104[illegible] |
| Do. | Jan. 2, 1907 | .................. | $2,000,000 | $2,000,000 | $ 100 | 4% | Jan. 2, 1917 | 104[illegible] |
| Philippine Railway First Mortgage Four per cent Thirty Year Sinking Fund Gold Bonds | July 1. 1907 | $15,000,000 | $5,736,000 | $5,736,000 | $1000 | 4% | July 1, 1937 | 97 |

*Payment of interest guaranteed until maturity or redemption by the Philippine Government.

## Professional Cards


**CEMENT TESTS**

Made according to the latest British Standard Specification, or to any other, as required : : : :

**COAL TESTS**

Ordinary tests. Caloriphic value. Elementary analysis

MINING INSTITUTE AND ANALYTICAL LABORATORY

**Dr. LIVIO SILVA**

EXAMINATIONS AND REPORTS FOR FINANCING

CABLE ADDRESS: "YOUNGENG" NEW YORK

**C. G. Young**

Engineering and Construction, Steam and Electric Railways, Public Utilities and Industrials, REPORTS for FINANCING.

IN ANY PART OF THE WORLD -:- SIXTY WALL ST., NEW YORK

# ALPHABETICAL LIST OF ADVERTISERS


| Advertiser | Page |
|---|---|
| Alhambra Cigar & Cigarette Factory | 27 |
| American Asiatic S. S. Co | 31 |
| American Hardware & Plumbing Co | 23 |
| Anderson & Co., Wm. H | 39 |
| Anderson, Meyer & Co | 30 |
| Arnhold Karberg & Co | 19 |
| Astor House Hotel Co. | Cover |
| Atlantic, Gulf & Pacific Co | 27 |
| Baldwin Locomotive Works | 32 |
| Banco Español Filipino | Cover |
| Bell, David W | 18 |
| Bohler Bros & Co. | 41 |
| British American Tobacco Co., Ltd. | 85 |
| Cadwallader-Gibson Lumber Co. | 28 |
| California-Manila Lumber Co. | 21 |
| Carmichael & Clarke | 10 |
| Chee Hsin Cement Co., Ltd | 40 |
| China Import Export Lumber Co. | 49 |
| China Merchants Steam Nav. Co. | 51 |
| China Mutual Life Insurance Co. | 50 |
| China and Manila S. S. Co | 31 |
| Chinese Eng. & Mining Co | 4 |
| Chinese Eastern Railway | 16 |
| Cia. General de Tabacos Filipinas. | 36 |
| Cia. Trasatlantica | 35 |
| Clarke, M. A | 42 |
| Cook's Sons, Adam | 6 |
| Defiance Machine Works | 20 |
| Derham Bros | 23 |
| Detroit Engine Works | 29 |
| Deutsch-Asiatische Bank | 1 |
| Dickeson, Jones & Co. | 41 |
| Dollar, Robert & Co | 55 |
| Earnshaw, M. & Co., Inc | 7 |
| East Asiatic Dredging Co | 27 |
| Eastern Engineering Co | 49 |
| Electrical Supply Co. Inc | 60 |
| Export and Import Lumber Co. | 23 |
| Fearon, Daniel & Co | 13-30 |
| Fairbanks Morse & Co | 61 |
| Ferro Machine & Foundry Co | 29 |
| Fox Typewriter | 33 |
| Fressel, C. & Co | 55 |
| Fushun Coal | 3 |
| Gardner Governor Co | 32 |
| Gas Engine & Power Co and Charles L. Seabury & Co. Consolidated | 28 |
| General Electric Co. | 20 |
| Germann & Co, Ltd | 57 |
| Germinal Cigar Factory | 35 |
| Gordon & Co | 52 |
| Grand Rapids Gas Engine & Yacht Co | 29 |
| Gray Motor Co. | 29 |
| Green Island Cement Co., Ltd. | 38 |
| Greilsammer Bros | 24 |
| Han-yeh-Ping Iron & Coal Co. Ltd. | 59 |
| Hanyang Iron & Steel Works | 59 |
| Harvey, Stuart S. | 43 |
| Hongkong Rope Mfg. Co., Ltd | 31 |
| Hongkong & Shanghai Banking Corp | Cover |
| Hongkong & Whampoa Dock Co., Ltd | 10 |
| Honolulu Iron Works Co | 58 |
| Hotel de France | 49 |
| Hotel St. Francis | 163 |
| Hupeh Cement Co | 40 |
| Imperial Hotel, Ltd | 52 |
| International Correspondence Schools | 13 |
| Insular Lumber Co | 24 |
| International Cold Stores, Ltd | 41 |
| International Banking Corp | Cover |
| Jardine, Matheson & Co | 25 |
| Kawasaki Dockyard Co. Ltd | 7 |
| Kiangnan Dock & Engineering Works | 8 |
| La Parisien Carriage Factory | 84 |
| Lambert-Springer Co | 64 |
| Lodge & Shipley Machine Tool Co. | 27 |
| Malthoid | 64 |
| Melchers & Co | 48 |
| Mitsu Bishi Dockyard & Eng. Works | 6 |
| Mitsui Bussan Kaisha | 5-45 |
| Morse & Son, A. J | 112 |
| Murray, Wilbur H. Mfg. Co | 57 |
| New Metropole Hotel | 50 |
| New Engineering and Shipbuilding Works, Ltd | 11 |
| Nicholson, C. S | 6 |
| Nippon Yusen Kaisha | 58 |
| North British Locomotive Co. Ltd. | 47 |
| Olsen & Co., Walter E | Cover |
| Pacific Mail S. S. Co | 37 |
| Pacific Tank and Pipe Co | 64 |
| Paraffine Paint Co | 62 |
| Penberthy Injector Co | 82 |
| Philippine Islands | 2 |
| Pickett Harness Co | 34 |
| Port Banga Lumber Co | 24 |
| Racine, Ackermann & Co | 39 |
| Remington Typewriter Co | 83 |
| Rose, Downs & Thompson, Ltd | 44 |
| Russo-Chinese Bank | 1 |
| San Miguel Brewery | 52 |
| Santa Mesa Rope Works | 18 |
| Schuchardt & Schütte, Berlin | 41 |
| Shanghai Dock & Eng. Co., Ltd | 12 |
| Shanghai Electric and Asbestos Co., Ltd | 44 |
| Shanghai Gas Co., Ltd | 28 |
| Shanghai Nanking Railway | 15 |
| Shanghai Machine Co | 26 |
| Shanghai Waterworks Co. Ltd | 50 |
| Shewan, Tomes & Co. | 46 |
| Siemens Schuckert | 17 |
| Siemssen & Co | 22 |
| Southern Pacific Co | 17 |
| South Manchuria Railway Mining Dept | 3 |
| South Manchuria Railway | 14 |
| Stevenson & Co., Ltd., W. F | 10 |
| Strong, Frank L | 43 |
| Superior Wrench Co | 29 |
| Swift & Co | 32 |
| Taikoo Dockyard and Engineering Company of Hongkong, Ltd | 9 |
| Thompson F. H | 49 |
| Toyo Kisen Kaisha | 29 |
| Truscott Boat Mfg. Co | 50 |
| Trussed Concrete Steel Co | 83 |
| United States Steel Products Export Co | 56 |
| Vander Loo & Co. F. A | 51 |
| Victorian Government Agency | 1 |
| Vulcan Iron Works | 57 |
| Vulcan Iron Works Ltd | 18 |
| Warner Barnes & Co., Ltd | 21 |
| Wen Ming Press | 26 |
| White & Co. (Inc.), J. G | 34 |
| Western Electric Co | 162 |
| Westinghouse Brake Co., Ltd | 53 |
| Wood Waste Distilleries Co | 41 |
| Woosung Car Shops | 51 |
| Worthington, Henry R | 20 |
| W. T. Henley's Telegraph Work Co., Ltd | 18 |
| Ynchausti & Co | 34 |
| Yokohama Specie Bank | 1 |
| Young, C. G | 111 |


## Classified Advertisers' Directory

*(Please mention this journal)*

**AGRICULTURAL IMPLEMENTS**
Anderson & Co., W. H.
Germann & Co., Ltd.

**ALCOHOL DISTILLERS**
Cia. General de Tabacos de Filipinas.
Ynchausti & Co.
Wood Waste Distilleries Co.

**ASBESTOS GOODS**
Shanghai Electric & Asbestos Co., Ltd.

**BANKS**
Deutsch-Asiatische
Hongkong and Shanghai Banking Corp.
International Banking Corp.
Banco Español Filipino
Russo-Chinese Bank
Yokohama Specie Bank, Ltd.

**BOILER MAKERS**
Babcock & Wilcox (D. W. Bell)

**BOILERS (PATENT WATER TUBE STEAM)**
General Electric Co.
Jardine Matheson & Co.

**BREWERIES**
San Miguel Brewery

**BRIDGE-BUILDERS**
Atlantic, Gulf and Pacific Co
White & Co., Inc., J. G.

**BROKERS, GENERAL**
C. S. Nicholson

**BUILDING MATERIALS**
California-Manila Lumber Com. Co.
Malthoid Paraffine Paint Co.
W. H. Anderson & Co.
Samuel McGregor & Co.

**CABLES, TELEPHONE, TELEGRAPH SUPPLIES**
David W. Bell
W. T Henley's Telegraph Works Co., Ltd.
Melchers & Co.

**CARRIAGES**
Wilbur H. Murray Mfg. Co.

**CEMENT**
Anderson & Co., W. H.
Chee Hsin Cement Co., Ltd.
Chinese Engineering and Mining Co., Ltd.
Green Island Cement Co., Ltd.
Racine, Ackermann & Co.

**CIGAR AND CIGARETTE MANUFACTURERS**
Alhambra Cigar & Cigarette Factory.
Castle Bros.-Wolf & Sons
Cia. Gral. de Tabacos de Filipinas
Germinal Cigar Factory
Olsen & Co., Walter E.

**CIVIL ENGINEERS**
Eastern Eng. Co.
C. G. Young

**COAL DEALERS**
Chinese Engineering and Mining Co., Ltd.
The Mitsui Bussan Kaisha
South Manchuria Railway Co.
The Han-Yeh-Ping Iron & Coal Co. Ltd.

**COAL HANDLING MACHINERY**
Atlantic, Gulf & Pacific Co.

**COFFEE DEALERS (WHOLESALE)**
M. A. Clarke (Mayon)

**CONTRACTORS, (GENERAL)**
Atlantic, Gulf and Pacific Co.
Bohler Bros. & Co.
Frank L. Strong
Germann & Co., Ltd.
Gordon & Co.
Lambert-Springer Co.
Siemssen & Co.
White, & Co. Inc., J. G.

**CONTRACTORS, ELECTRICAL**
Arnhold, Karberg & Co.
Electrical Supply Co. Inc.
Germann & Co., Ltd.
Shanghai Electric & Asbestos Co., Ltd.
Shewan Tomes & Co.
Frank L. Strong
Siemens Shuckert
Siemssen & Co.

**CONSULTING ENGINEERS**
Atlantic, Gulf & Pacific Co.
Carmichael & Clarke.
Germann & Co., Ltd.
White & Co., Inc. J. G.
C. G. Young

**DIVING APPARATUS**
A. J. Morse & Son

**DREDGERS**
Dickeson, Jones & Co.
Melchers & Co.
Rose, Downs & Thompson, Ltd.

**DRY CELLS**
T. H. Thompson.

**EDUCATIONAL**
I. C. S. Correspondence Schools.

**ELECTRIC LIGHTING PLANTS**
Anderson Meyer & Co.
Arnhold, Karberg & Co.
Electrical Supply Co. Inc.
Fearon, Daniel & Co.
General Electric Co.
Germann & Co., Ltd.
Siemens Shuckert
Siemssen & Co.
Shewan, Tomes & Co.
Western Electric Co.

**ELECTRICAL SUPPLIES**
Anderson Meyer & Co.
Arnhold Karberg & Co.
Electrical Supply Co. Inc.
Jardine, Matheson & Co.
Babcock & Wilcox (D. W. Bell)
Belliss & Morcom (D. W. Bell)
Fearon, Daniel & Co.
General Electric Co.
Melchers & Co.
Shanghai Electric & Abestos Co. Ltd.
Shewan, Tomes & Co.
Siemens Shuckert
Siemssen & Co.
Western Electric Co.

**ENGINES (PUMPING)**
Belliss & Morcom (D. W. Bell)
Siemssen & Co.

**EXCAVATORS AND ELEVATOR**
Dickeson, Jones Co.
Rose, Downs & Thompson, Ltd
Siemssen & Co.

**EXPLOSIVES**
Jardine Matheson & Co.,

**FIBRE MACHINERY**
Dailey, C. E.

**FOOD PRODUCTS**
Anderson & Co., W. H.
Swift & Co.

**GAS. ENGINES**
Fairbanks, Morse & Co.
Castle Bros.-Wolf & Sons
Detroit Engine Works
Shanghai Gas Co., Ltd.
Truscott Boat Mfg. Co.
Melchers & Co.

**HARDWARE**
Springer-Lambert Co.

**HARNESS MANUFACTURERS**
Pickett Harness Co.

**HOTELS**
Astor House Hotel Co.
Hotel de France
Hotel St. Francis
Tokyo Imperial Hotel
New Metropole Hotel

**ICE MACHINERY**
Vulcan Iron Works
Melchers & Co

**INJECTORS**
Penberthy Injector Company.

**INSURANCE**
Stevenson & Co., Ltd., W. F.

**JOURNALS, SCIENCE**
The Philippine Journal of Science

**LIFE INSURANCE**
China Mutual Life Insurance Co., Ltd.
Shanghai Life Insurance Co., Ltd.

**LITHOGRAPHERS**
The Wen Ming Press.

**LUMBER DEALERS**
Cadwallader-Gibson Lumber Co.
California-Manila Lumber Com. Co.
Export and Import Lumber Co.
Insular Lumber Co.
Jardine, Matheson & Co.
Port Banga Lumber Co.

**MACHINERY MERCHANTS**
Anderson, Meyer & Co.
Arnhold Karberg & Co.
Shanghai Machine Co.
Fearon, Daniel & Co.
Frank L. Strong
Stuart S. Harvey
Siemssen & Co.
Schuchardt & Schutte.

**MARINE ENGINES**
Fairbanks Morse & Co.
Truscott Boat Mfg. Co.
Grand Rapids Gas, Engine & Yacht Co.

**MILL MACHINERY**
Rose, Downs & Thompson Ltd.

**MINING MACHINERY**
Atlantic, Gulf & Pacific Co.
Germann & Co., Ltd.
Melchers & Co.
Shewan, Tomes & Co.
Siemssen & Co

**MINING COMPANIES**
Chinese Engineering & Mining Co.
South Manchuria Railway Co.
Mitsui Bussan Kaisha

**MOTORS**
Grand Rapids Gas, Eng. & Yacht Co.
The Gray Motor Co.
The Ferro Machine & Foundry Co.

**MOTOR LAUNCHES**
Earnshaw, M. & Co.
Gas Engine & Power Co. and Charles L. Seabury & Co (Consolidated)
Fairbanks, Morse & Co.

**OFFICE FURNITURE**
Cadwallader-Gibson Lumber Co.

**PAINTS OILS AND VARNISH**
F. A. Vander Loo & Co.
Lambert-Springer Co.
Shanghai Electric & Asbestos Co., Ltd.
Adam Cook's Sons

**PULLEYS (STEEL)**
Schuchardt & Schütte

**PUMPS**
Shewan Tomes & Co.
Jardine Matheson & Co.
Henry R. Worthington.
Shanghai Machine Co.
The Gardner Governor Co.

**RAILROADS**
Chinese Eastern
Shanghai-Nanking.
South Manchuria
Southern Pacific Co.

**RAILROAD SUPPLIES**
Anderson, Meyer & Co.
Arnhold Karberg & Co.
Fearon, Daniel & Co.
Jardine, Matheson & Co., Ltd.
Mitsui Bussan Kaisha
Siemssen & Co.
Westinghouse Brake Co., Ltd.
Shewan Tomes & Co.
Shanghai Machine Co

**REINFORCED CONCRETE CONSTRUCTION**
Trussed Concrete Steel Co.

**ROOFING PAPER**
Malthoid

**ROPE MANUFACTURERS**
Hongkong Rope Mfg. Co. Ltd.
Santa Mesa Rope Works.
Ynchausti & Co.

**SANITARY ENGINEERING**
Gordon & Co.
Lambert-Springer Co.
Shanghai Waterworks Co., Ltd.

**SAW MILLS**
Export and Import Lumber Co.
Insular Lumber Co.
Jardine, Matheson & Co.
Cadwallader-Gibson Lumber Co.
Port Banga Lumber Co.

**SERUM**
Bureau of Science

**SHIP-CHANDLERY**
Ynchausti & Co.

**SHIPPING AGENTS**
Castle Bros.-Wolf & Sons
Cia. General de Tabacos
Shewan, Tomes & Co.
Stevenson & Co., Ltd.
Warner, Barnes & Co., Ltd.

**SHIPBUILDING AND REPAIRS**
Gas Engine & Power Co. and Charles L. Seabury & Co. (Consolidated)
Hongkong & Whampoa Dock Co., Ltd.
The Kawasaki Dockyard Co. Ltd.
Kiangnan Dock and Engineering Co., Ltd.
Mitsu Bishi Dock and Engineering Works
New Engineering and Shipbuilding Works, Ltd.
Shanghai Dock and Engineering Co., Ltd.
The Taikoo Dockyard and Engineering Company of Hongkong, Limited
Earnshaw, M. & Co.
Vulcan Iron Works, Ltd.

**STEAMSHIP COMPANIES**
American Asiatic S. S. Co.
China and Manila S. S. Co., Ltd.
China Merchants Steam Nav. Co.
Cia. General de Tabacos
Nippon Yusen Kaisha
Occidental and Oriental S. S. Co.
Pacific Mail S. S. Co.
Toyo Kisen Kaisha S. S. Co.
Transatlantica S. S. Co.
Ynchausti & Co.

**STEEL MANUFACTURERS**
United States Steel Products Export Co.

**STEEL WORKS**
Bohler Bros. & Co.
The Han-Yeh-Ping Iron and Coal Co. Ltd.
Hanyang Iron & Steel Works.

**STRUCTURAL STEEL**
Bohler Bros. & Co.
A. Gulf & Pacific Co.

**SUGAR MACHINERY**
Honolulu Iron Works.

**TANKS**
Atlantic, Gulf & Pacific Co.
Pacific Tank and Pipe Co.
Shanghai Dock & Engineering Co., Ltd.

**TELEPHONES**
The Western Electric Co.

**TILES AND BRICKS**
C. Fressel & Co.
Green Island Cement Co., Ltd.
Chinese Eng. Mining Co.

**TOBACCO DEALERS**
British American Tobacco Co., Ltd
Cia. General de Tabacos
Olsen & Co., Walter E.

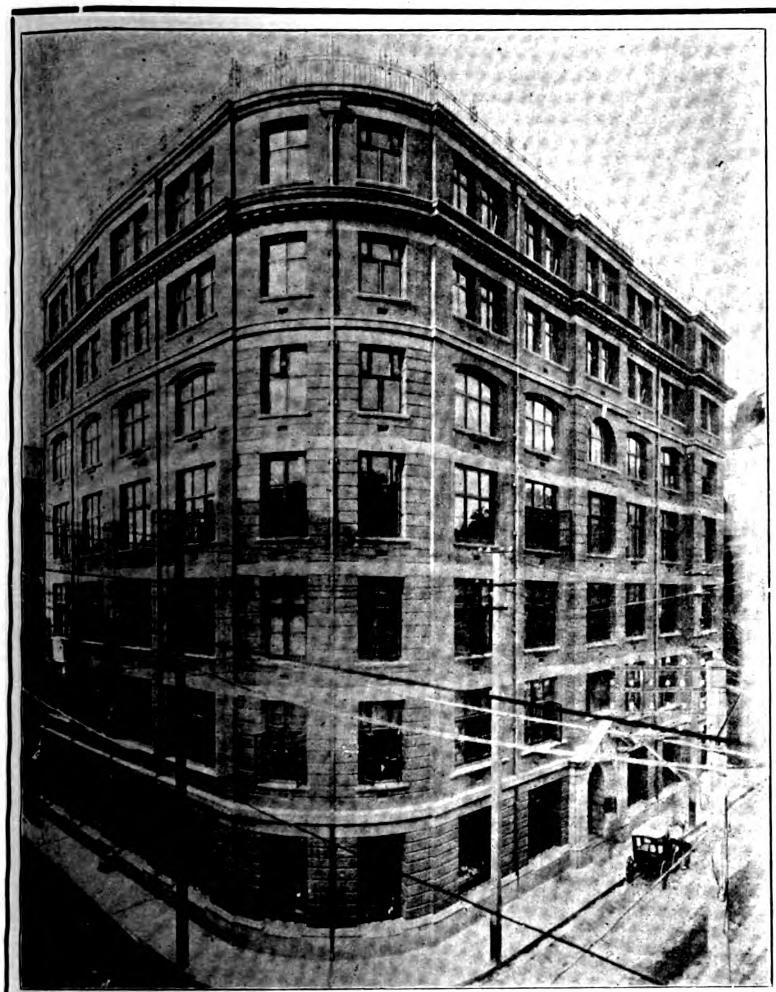
**TOOLS**
Lodge & Shipley Machine Tool Co.
Shanghai Machine Co.
Lambert-Springer Co.

**TYPEWRITERS**
The Fox Typewriter
Remington Typewriter Co.

**WINDMILLS**
Fairbanks, Morse & Co.
Defiance Machine Works.


J. J. CHOLLOT
INGENIEUR DES PONTS ET CHAUSSEES
CIVIL ENGINEER, SURVEYOR AND ARCHITECT
53 QUAI DU YANG-KING-PANG, SHANGHAI

A. J. MORSE & SON, INC.
221 High St., Boston, Mass., U. S. A.
ESTABLISHED 1837
DIVING APPARATUS
Special Apparatus built to order
FRANK L. STRONG, Agent -:- 24 Calle Echague, Manila, P. I.



ARNHOLD, KARBERG & CO.'s New Building, Kiukiang and Szechuen Roads, Shanghai, "Kahn" System of Reinforced Concrete Bars Employed in Construction

# KAHN SYSTEM

## OF REINFORCED CONCRETE

The modern way of building—Fireproof and Enduring—Costs nothing for maintenance and lasts forever.

Over 2500 *Kahn System* structures in all parts of the world—including Factories, Warehouses, Stores, Office Buildings, Hotels, Public Buildings, Bridges, Viaducts, Tunnels, Reservoirs, etc.—Over 50 important buildings for the United States Government.

Experts agree that reinforced concrete is the best building material for resisting earthquakes.

*Kahn System* controls exclusively:

KAHN TRUSSED BARS—for reinforcing concrete beams, girders and floors.

RIB METAL—for reinforcing slabs, walls, sewers and conduits.

HY-RIB—A self-centering reinforcement for floors and roofs. A unit of lath and studs for walls and partitions.

RIB-LATH—The best steel lath for plastering and stucco work.

"TRUS-CON" CHEMICAL PRODUCTS—for finishing and water-proofing concrete.

Our Engineering Department will be glad to assist you with designs and estimates.

Separate catalogues showing structures of every kind, giving detailed methods of design and describing our various *Kahn System* products.

## Trussed Concrete Steel Company

HEAD OFFICE DETROIT, MICH., U. S. A.

**Eastern Agencies:**

*PHILIPPINE ISLANDS*—California-Manila Lumber Commercial Co. Room 10, Lack & Davis Bldg., Manila, P. I.

*CHINA*—Arnhold, Karberg & Co., Hongkong, Canton, Newchwang, Tsingtau, Shanghai, Tientsin.

*JAPAN*—American Trading Co., Yokohama and Kobe.

*HAWAIIAN ISLANDS*—Honolulu Iron Works Co., Honolulu, T. H.

*The Development of the*

# Remington

*is the History of the Writing Machine*

# 10 AND 11 NEW MODELS NOW READY

**Model 10, with Column Selector**
**Model 11, with Built-in Tabulator**

## Remington Typewriter Company

(INCORPORATED)

**New York and Everywhere**

McAlister & Co. Ltd., Singapore.
E. C. McCullough & Co., Manila.
Mustard & Co., Shanghai.
E. H. Tuska, Kobe and Yokohama.

# THE FOX VISIBLE TYPE-WRITER

The STANDARD TYPEWRITER of the WORLD

**THE ONLY VISIBLE TYPEWRITER** having the strength, solidity, and durability of the best blind machines.

The **FOX** is the Typewriter that compelled every other typewriter manufacturer to get out a visible model—or go out of business.

The **FOX** has every improvement and attachment of the highest grade typewriter.

It combines "The good of the old with the best of the new."

**AGENTS WANTED**

We offer the Standard Typewriter, Exclusive Territory, very liberal conditions, and every possible assistance to our representatives.

Write for free illustrated catalog and circulars

## FOX TYPEWRITER CO. 970-990 FRONT STREET GRAND RAPIDS, MICH., U.S.A.

FEARON, DANIEL & CO., Shanghai, Agents for China

**CABLE ADDRESS:** "PICKETT" | **CODES:** WESTERN UNION, UNIVERSAL | **TELEPHONE:** 1041

# HARNESS

We have the only Modern Harness Manufacturing Plant in the Far East, and have studied Oriental needs for ten years.

We make harness to fit horses of any size suited either for Driving or Draft purposes and only the best American leather is used.

We have a complete stock of the latest patterns in Smart Harness and are equipped to fill the largest order to the satisfaction of the trade.

We have made harness for the Philippine Government for the last decade.

We carry in stock the best makes of English and American riding saddles.

We are sole agents for "Eglentine" Metal Bits, Stirrups, Spurs, etc.

*Far Eastern Dealers Should Write for Our Catalogue and Wholesale Prices*

## PICKETT HARNESS CO.

MANILA, P. I.

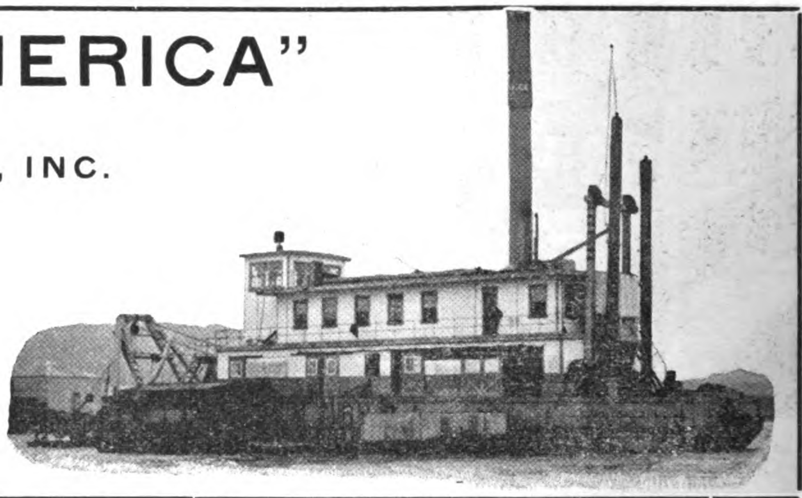
---

# DREDGE "AMERICA"

## FOR SALE

J. G. WHITE & CO., INC.

MANILA, P. I.



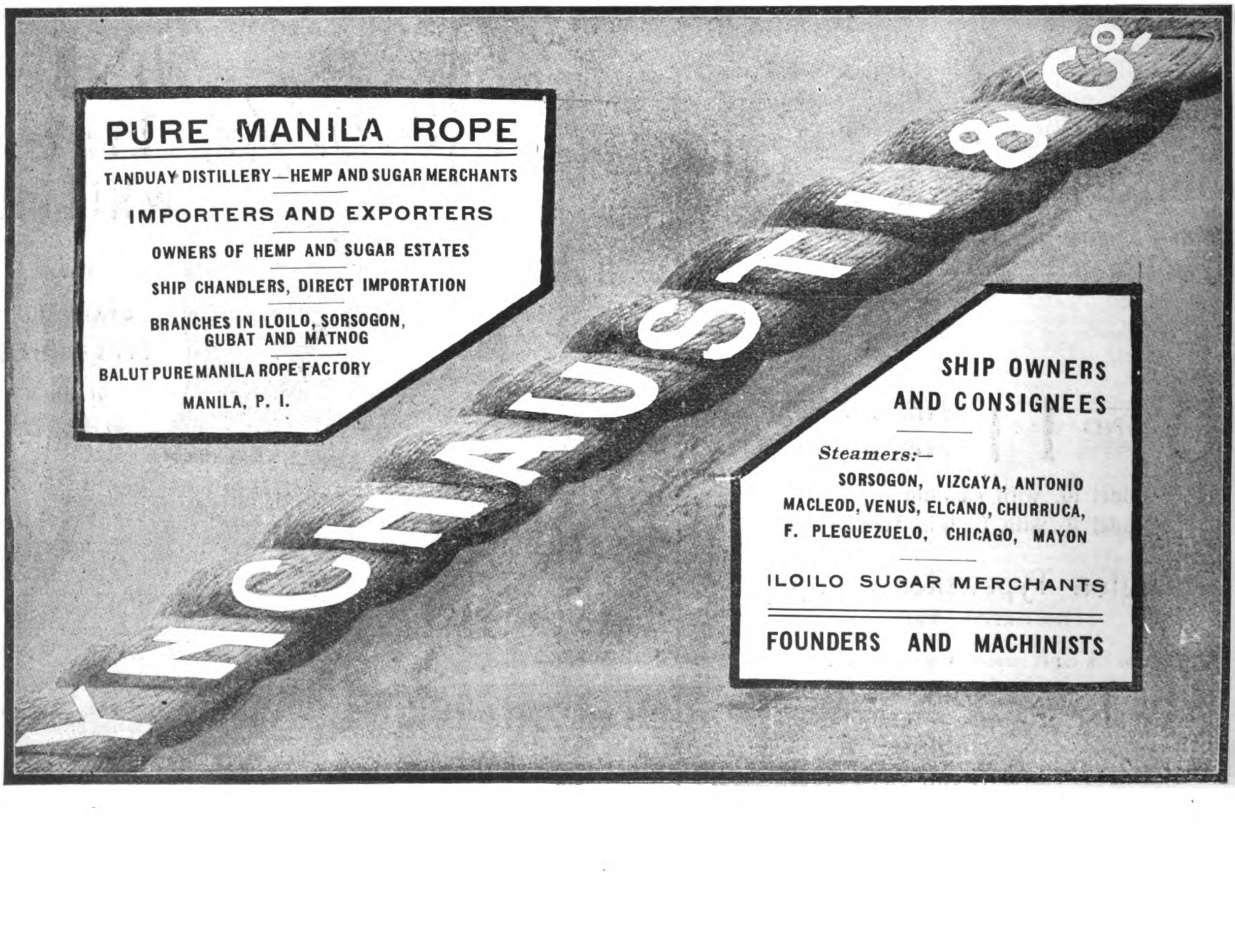
16 inch Hydraulic Dredge, Capacity, 7500 gals. per Minute.

For sale at one half cost account closing out plant.

Perfect condition. Has been in service less than two years.

Ready for work now, with full equipment pontoons, pipe, spare parts.

---



THE

## *World's Best Products*

TOBACCOS

Garrick Smoking Mixture
Glasgow Smoking Mixture
Player's Navy Cut
Player's Navy Mixture
Old English Curve Cut
Capstan Mixture
Bull Durham
Black & Tan

VIRGINIAN CIGARETTES

Three Castles
Capstan Navy Cut
Sweet Caporal
Crosscut
Garrick, Gold Tipped
Garrick, Plain
Golden Honey Dew

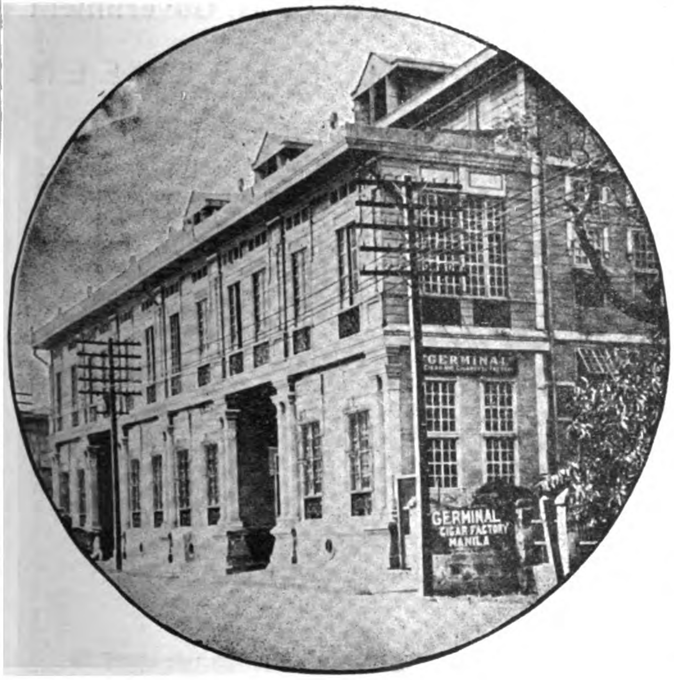
EGYPTIAN CIGARETTES

Bouton Rouge
Felucca
Nilometer
Rapido
Lotus
Natural

OBTAINABLE OF ALL DEALERS AND AT DEPOTS OF

# British-American Tobacco Company, Ltd.

SHANGHAI -:- HONGKONG -:- MANILA -:- SINGAPORE -:- BANGKOK -:- COLOMBO -:- CHEMULPO




# "GERMINAL"

## Cigar and Cigarette Factory

4 Calle Marques de Comillas, Manila, P. I.

FOR A MILD CIGARETTE SMOKE TRY THE "FLOREAL"

GERMINAL MANILA
TRADE MARK

GERMINAL CIGARS THE UNIVERSAL FAVORITE

This means the approval of discriminating critics; and shows an appreciation of the delicious richness of the choicest tobacco leaf, the exquisite aroma of an original blend, the finished touch throughout of an expert's hand - - - - - - - - -

# "FLOREAL" Cigarettes

"floreal"
TRADE MARK

TELEGRAPHIC ADDRESS:
"TABACALERA"

HEAD OFFICE
BARCELONA

# COMPANIA GENERAL DE TABACOS
## DE FILIPINAS

**Established in 1882.** **Capital: £ 3,000,000**

Shipping Department, 63 Escolta.

—

Manila General Office, Calzada Marques de Comillas.

—

Retail Store, 63 Escolta.

BRANCHES AND AGENCIES

—

In the principal cities of the world and towns of the Philippines

—

Proprietors of the celebrated factories

## "La Flor de la Isabela"

High grade cigars manufactured with the most selected leaf grown in the estates of the Company.

SPECIAL BRANDS:

Pig's tails, Vegueros Especiales, Regalia A. Lopez, Regalia G. Pereire, Favoritos A. Lopez, Favoritos A. Correa, Perfectos Especiales, Exquisitos, Reina Victoria, etc.

**Excellent common brands.**

## "La Clementina"

Alcohol Manufactures—Gin—Distilled Spirits

**GENERAL IMPORTERS AND EXPORTERS**

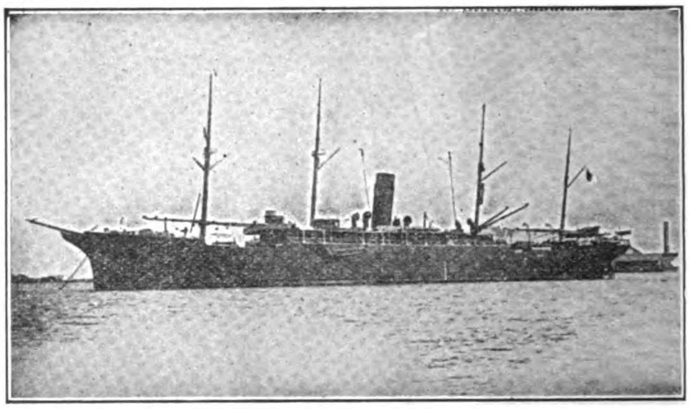
## INTERISLAND STEAMERS

Under Government Contract and Inspection.
Electric Light. First Class Accommodation

**FAR EASTERN BRANCH AGENCIES:**

| | |
|---|---|
| YOKOHAMA ........... | 240 Settlement. |
| SHANGHAI ........... | J. DELBOURGO, 29 Rue du Consulat. |
| HONGKONG ........... | A. R. MARTY, 2 Pedder-st. |

# *Spanish Royal Mail*



S. S. ANTONIO LOPEZ

# C.IA TRANSATLANTICA

## Late Lopez & Co.

Under Contract with R. C. M. Government

DIRECT SERVICE BETWEEN

Manila, Singapore, Barcelona and Liverpool. Calling at Colombo, Port Said, Genoa, Cadiz, Lisbon, Vigo.

**Regular passenger and freight service between**

Manila, Singapore, Colombo, Suez, Port Said, Genoa, Barcelona, Valencia, Cadiz, Lisbon, Vigo, Coruna and Liverpool. Regular monthly service between Barcelona, Cadiz, New York, Cuba and Mexico. Through tickets from Manila to New York with change of steamer at Barcelona or Cadiz. Through bill of lading to all European ports and to Atlantic Coast Ports of U. S. A. Cargo for Naples transhipped at Genoa and for London and Hamburg at Liverpool : : : : : : : : : : :

**For freight and passage and full information apply to**

AGENT DE LA

## COMPANIA TRANSATLANTICA

Plaza Moraga No. 9 Manila, P. I.

# THE SEMI-TROPICAL ROUTE

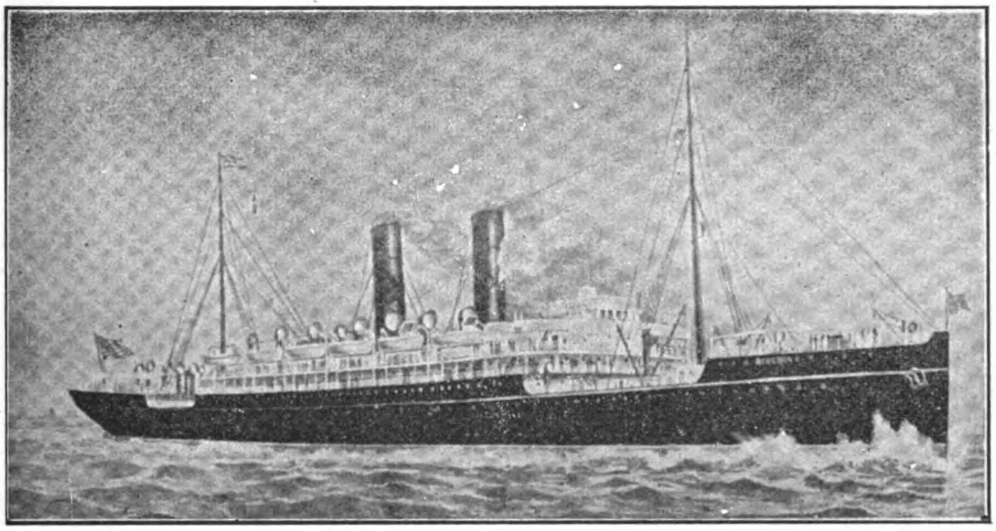
## PACIFIC MAIL STEAMSHIP COMPANY

## TOYO KISEN KAISHA

DIRECT SERVICE BETWEEN SAN FRANCISCO AND THE FAR EAST

SAN FRANCISCO
HONOLULU
YOKOHAMA
KOBE
NAGASAKI
SHANGHAI
HONGKONG
MANILA

A. M. GARLAND
FREIGHT TRAFFIC MANAGER
A. G. D. KERRELL
GENERAL PASSENGER AGENT



MANCHURIA
MONGOLIA
KOREA
SIBERIA
CHINA
ASIA
TENYO MARU
CHIYO MARU
NIPPON MARU

GENERAL OFFICE,
"FLOOD BUILDING"
SAN FRANCISCO, CAL.

SIBERIA—Transpacific Record 10 days 10 hrs. (Yokohama-San Francisco)

FEATURES OF THE LINE:—Southern route; passengers enjoy outdoors throughout; deck bathing. The call at Honolulu, Oahu, the most fertile and beautiful Island of the Pacific. The only line to San Francisco, the greatest port of the Pacific.

Castle Bros.-Wolf & Sons, Agents, Manila, P. I.



# SAN FRANCISCO TO THE EAST

*The Overland Limited*

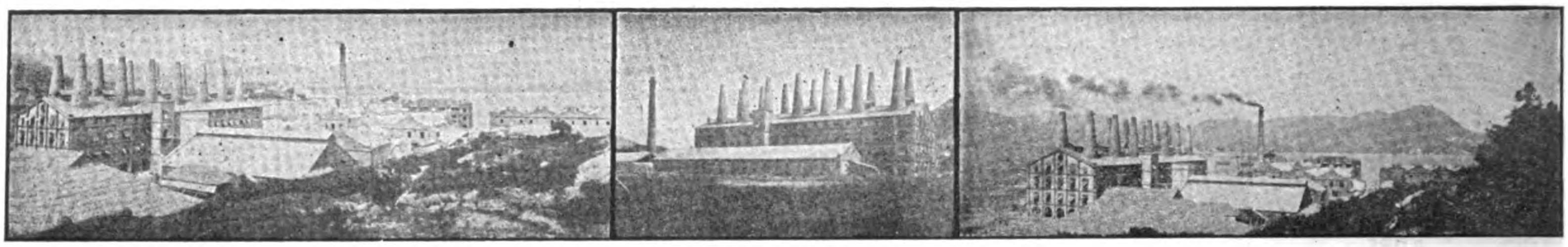
**Electric-lighted parlor sleeping cars, combination buffet-library and drawing-room observation cars. Diner all the way**

*The Last Word in Luxurious Travel*

**Over the scenic route and straight across the Great Salt Lake by way of Lucin-Ogden cut-off, a wonderful triumph of modern engineering**

# SOUTHERN PACIFIC

# GREEN ISLAND CEMENT

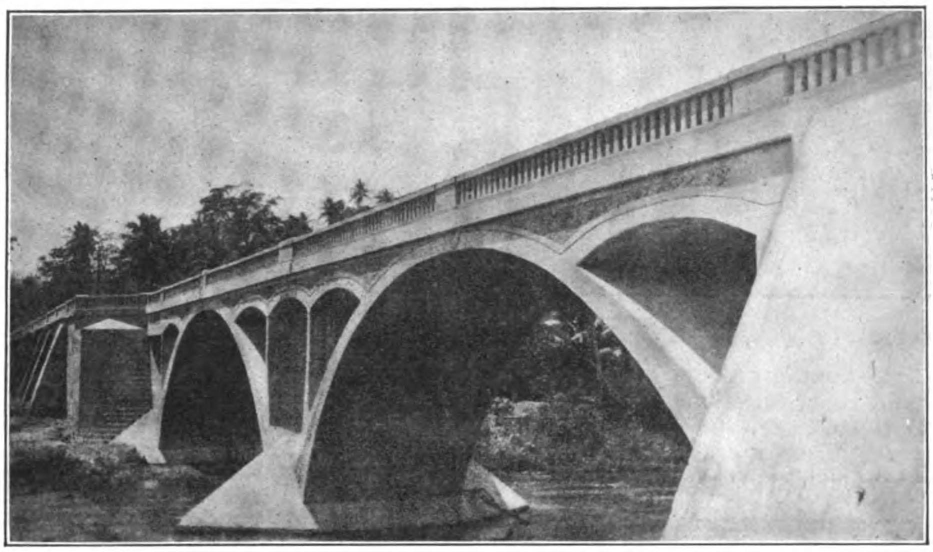


WORKS OF THE GREEN ISLAND CEMENT COMPANY, LIMITED, HONGKONG

Glazed Stoneware

—

House Drain and Sewer Pipes and Fittings In Stock



PARABOLIC ARCH BRIDGE, ALBAY—2500 BARRELS OF GREEN ISLAND CEMENT USED IN ITS CONSTRUCTION

Glazed Paving Bricks and Tiles

—

Fire Bricks and Fire Clay

**Agents:**

WM. H. ANDERSON & CO.
MANILA, P. I.

SHEWAN, TOMES & CO.
SHANGHAI

SHEWAN, TOMES & CO.
JAPAN

TURNER, MORRISON & CO
CALCUTTA

**Agents:**

GEO. GILLESPIE & CO.
RANGOON

E. SPINNER & CO.
BOMBAY

SHEWAN, TOMES & CO.
TIENTSIN

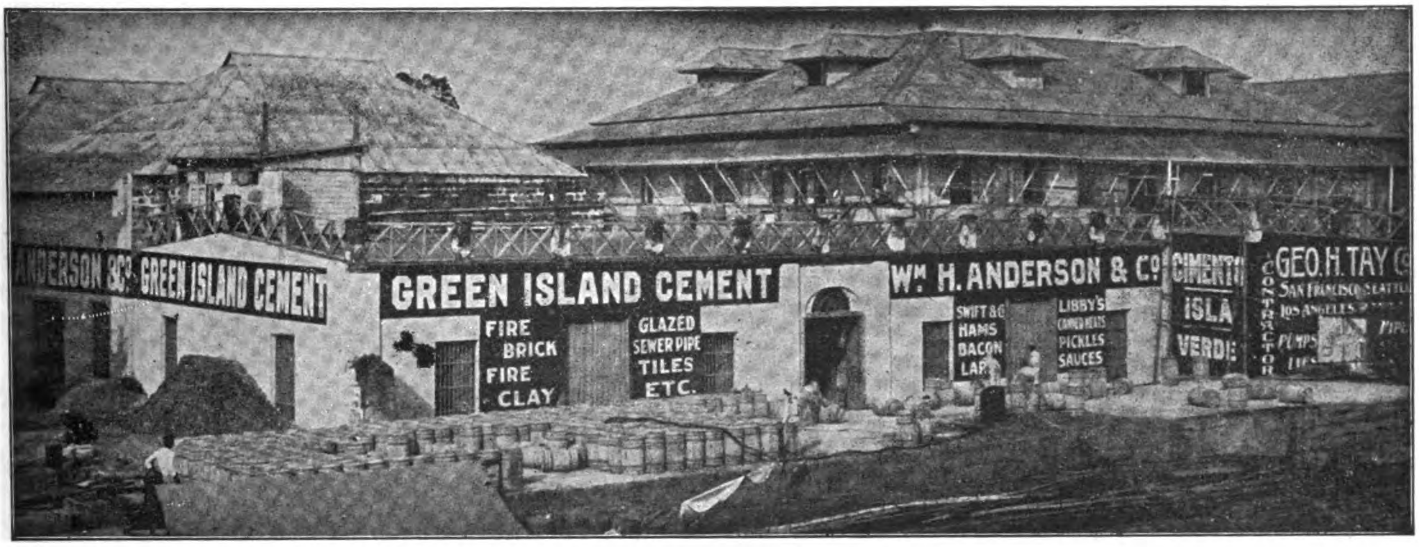
McALISTER & CO., LTD.
SINGAPORE, PENANG

SANTA CRUZ BRIDGE

# Wm. H. ANDERSON & CO.

MANILA, P. I.

IMPORTERS AND EXPORTERS: COMMISSION AGENTS




AGENTS IN THE PHILIPPINES FOR

| | | | |
|---|---|---|---|
| GREEN ISLAND CEMENT COMPANY | LIBBY, McNEILL & LIBBY | DIEBOLD SAFES | GLAZED SEWER PIPE |
| HONGKONG ROPE MFG. CO. | SWIFT & COMPANY | AERMOTOR COMPANY | FIRE BRICK, FIRE CLAY |
| FARM AND ROAD WAGONS | BRUNSWICK-BALKE COLLENDER CO. | LUBRICATING OILS | RUBEROID ROOFING |

*Use Dragon Brand for Highclass Solid and Enduring Construction*

GENERAL AGENTS FOR CHINA

# *RACINE ACKERMANN & CO.*

*NO. 4 YANG-KING-PANG, SHANGHAI*

**THE CHEE HSIN CEMENT CO., LTD.**

**TANGSHAN PORTLAND CEMENT**

In barrels of 375 lbs. (170 kg.) net

Tangshan Portland Cement manufactured of the best raw material at our new extensive works which have recently been erected and equipped with the newest and most up-to-date machinery, flint-mills, rotary-ovens, etc., etc., is of superior quality and

**EQUAL TO THE BEST EUROPEAN BRANDS**

Awarded Silver Medal at St. Louis Exposition 1904

*Shanghai Agent:*
*E. WOYAN*
*47 Quai de France*

In bags of 187½ lbs. (85½ kg.) net

Tangshan Portland Cement is universally used throughout North China by Railways, Engineering Works, Mining Companies, Municipalities, etc. Orders of large extent accepted for delivery at short notice.

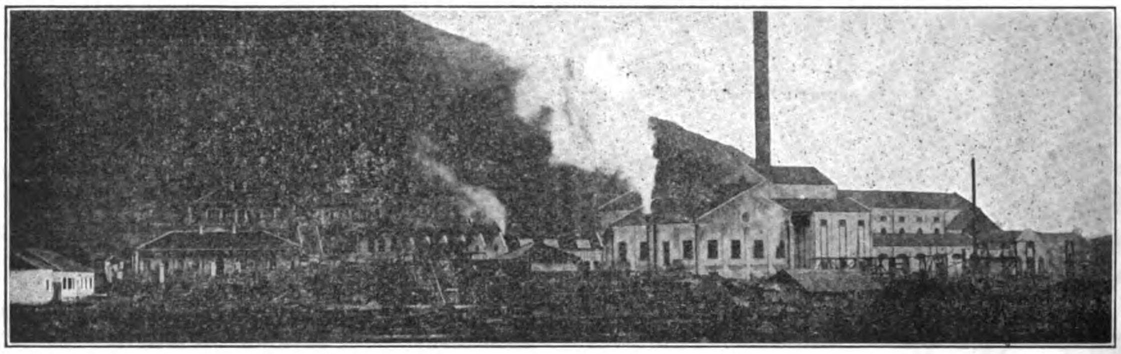
**CEMENT MOSAIC TILES**
**CEMENT ROOFING TILES**
**CEMENT PAVING TILES**
**CEMENT DRAIN PIPES**
**FIREBRICKS**
**FIRECLAY TILES**
**GROUND FIRECLAY**

For particulars and prices apply to

**THE CHEE HSIN CEMENT CO., LTD.**

Head Offices:
TIENTSIN

*Hankow Agent:*
*CHING CHONG*


**TAYEH,**
**HUPEH**
**PROVINCE,**
**CHINA**

TELEGRAPH ADDRESS:
**"SHUINEE"**

SHANGHAI OFFICES:
**221 NINGPO ROAD**
**TELEPHONE, 3431**

HANKOW OFFICES:
**CHINESE BUND,**
**CHONG PING LANE**

ONE OF FOUR GRAB DREDGERS SUPPLIED TO THE GREAT WESTERN RAILWAY CO.

# PRIESTMAN BROTHERS, LIMITED

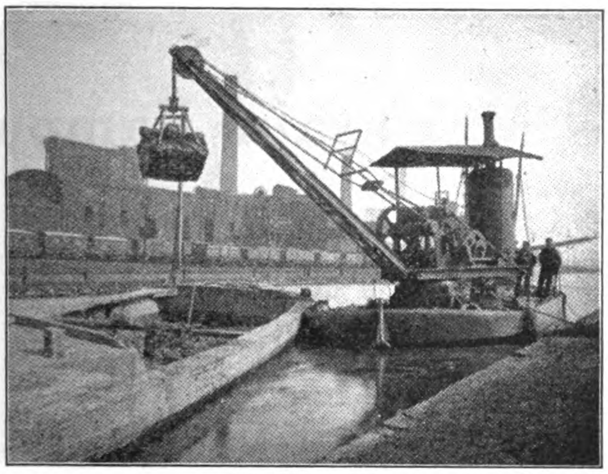
HULL AND
3 LAURENCE POUNTNEY HILL,
CANNON ST., LONDON, E. C.

## DREDGERS, EXCAVATORS AND ELEVATORS

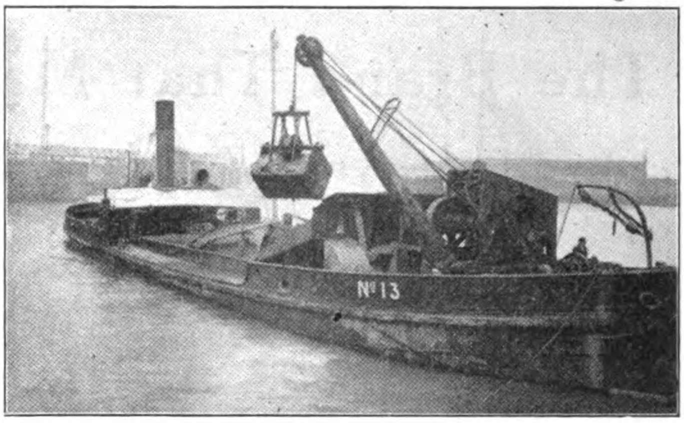
150 DIFFERENT TYPES AND SIZES OF GRABS TO SELECT FROM 1 TO 150 CUBIC FEET CAPACITY

PRICES AND FULL PARTICULARS ON APPLICATION TO

ONE OF A LARGE NUMBER OF GRABS TAKEN BY MESSRS. S. PEARSON & SON, LTD., CONTRACTORS



ONE OF A NUMBER OF GRAB DREDGERS SUPPLIED TO THE LONDON & NORTH WESTERN RAILWAY COMPANY



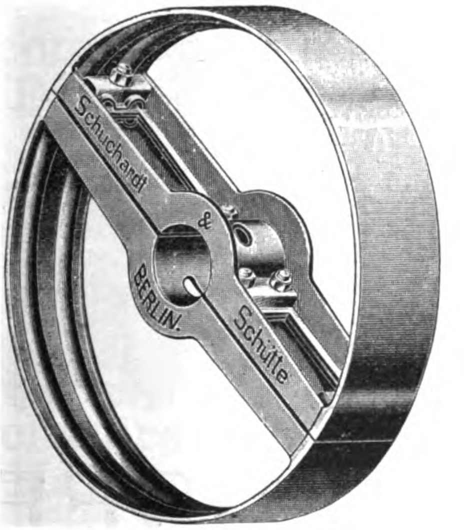

ONE OF FIFTEEN GRAB DREDGERS SUPPLIED TO THE LIVERPOOL DOCKS BOARD

## DICKESON, JONES & CO., AGENTS FOR CHINA



## SCHUCHARDT & SCHUTTE

BERLIN LONDON NEW YORK




**ABSOLUTELY RIGID**

**NO BREAKAGE NO WARPING.**

**FULL ASSORTMENT OF SIZES CARRIED IN STOCK BY:**

TAKATA & CO., TOKYO
SHANGHAI MACHINE CO., SHANGHAI AND HANKOW.
GERMANN & CO., MANILA.
HOWARTH ERSKINE & CO., LTD., BANGKOK.
MAINTZ & CO., BATAVIA AND SOERABAYA.



**The United States offers the greatest opportunity** in the world to makers of industrial or denatured alcohol. Those who start this production now are bound to come to great rewards. The field is practically untouched and by starting now, you can have things very much your own way.

A general consideration of the NEW INDUSTRY, including a full description of the distilling apparatus used and the principle involved, also methods of chemical control and disposal of the products, first edition illustrated by seventy-four engravings, 156 pages. This book is cloth bound, it will be sent to any address post paid on receipt of $3.20. Every farm, ranch and merchant needs a 5 gallon Tax-Free denatured alcohol distillery apparatus. Agents price $98.50, a 100 gallon distilling apparatus cost $700.00. We are desirous to establish Far Eastern Agencies and have very good propositions to offer.

## THE UTILIZATION OF WOOD WASTE BY DISTILLATION

## Wood Waste Distilleries Co.

**213-217 St. Clair Ave., N. W. CLEVELAND, OHIO, U. S. A.**

# CLARKE'S

MAYON COFFEE

MANILA PHILIPPINE IS.

## The Brand That Made The Mountain Famous

# CLARKE'S MAYON COFFEE

EQUALS "SATISFIED CUSTOMERS"

Once Tried Always Used—Never Refused

# Frank L. Strong

Cable Address: STRONG

Telephone No. 360 P. O. Box 772

# Stuart S. Harvey

Cable Address: HARVISTON

Telephone No. 360 P. O. Box 277

Offices: 34-40 Calle Echague, Manila, P. I.

## EXCLUSIVE AGENTS

FOR LEADING

## AMERICAN AND EUROPEAN MANUFACTURERS

### LEADING SPECIALTIES

Electrical Machinery and Supplies

Saw Mill and Planing Mill Machinery

Locomotives and Railway Equipments

Air Compressors and Pneumatic Tools

Agricultural and Road Making Machinery

Mechanics' Tools, Builders' Hardware, etc., etc.

Steam Engines and Boilers

Kerosene and Gasoline Engines

Ice and Refrigerating Machines

Sugar, Rice and Fibre Machinery

Mining and Hydraulic Machinery

Complete Machine Shop Equipment

SPECIFICATIONS DRAWN ESTIMATES GIVEN

# Shanghai Electric and Asbestos Co., Ltd.

**Removed to new premises on Nanking Road—between the Bund and Szechuen Road, Shanghai**

## Electrical Engineers, Government Contractors, and Agents.

SOLE AGENTS FOR

*Bell's Asbestos Eastern Agency, Ltd.*

*Packings and Special Lubricants*

*Suter Hartmann and Rahtjen's "Red Hand"*

*Anti-Corrosive and Anti-Fouling Paints*

*"Express" Marine Oils*

*Easton Lift Co., Electric Lifts*

*Bowers Rubber Works, San Francisco, Cal.*

*Rubber Goods, Packings, Fire Hose, Mats, etc.*

**Cable Address: "OHM" SHANGHAI**
**Codes: A-1, A. B. C. (5th Edition), Engineering and Western Union**

The oldest established firm in our line in China. We carry the largest and most varied stocks in the Far East. Call and see our showroom

CLASSIFIED HEADINGS

**ELECTRICAL ENGINEERS, ELECTRICAL MACHINERY IMPORTERS, SUNDRY MACHINERY IMPORTERS, PAINT MERCHANTS, OIL MERCHANTS, RUBBER MERCHANTS, FIRE HOSE IMPORTERS, ASBESTOS IMPORTERS, PACKINGS IMPORTERS, ELEVATOR IMPORTERS, ELEVATOR INSTALLATIONS, SHIPS' COMPRADORES, MATTING IMPORTERS. - - - - - - - - - - - - -**



# ROSE, DOWNS & THOMPSON, LTD.

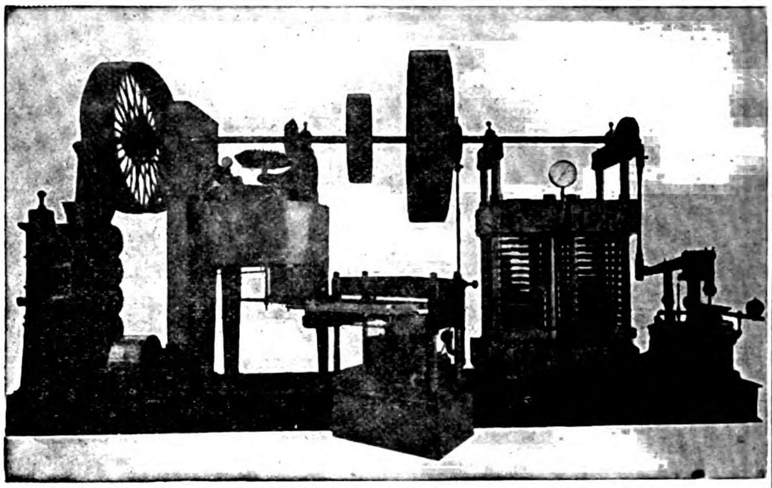
ESTABLISHED 1777

**EASTERN OFFICE: 13 NANKING ROAD, SHANGHAI**

CABLE ADDRESS: "ROSEDOWNS," SHANGHAI

HEAD OFFICE AND WORKS, HULL, ENGLAND

**CONTRACTORS TO HOME, COLONIAL AND FOREIGN GOVERNMENTS**



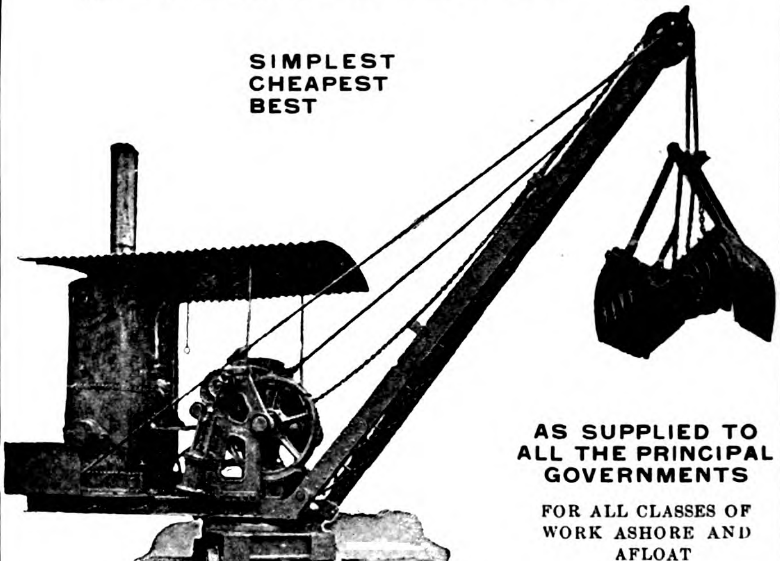
**OLDEST AND LARGEST MANUFACTURERS IN THE WORLD OF**

## OIL MILL MACHINERY

SUITABLE FOR THE TREATMENT OF EVERY VARIETY OF OIL-BEARING SEED AND NUT; ON THE MOST EFFICIENT AND MODERN PROCESSES

OVER 4,000,000 TONS OF SEEDS AND NUTS CRUSHED ANNUALLY IN MACHINERY MANUFACTURED BY US

SIMPLEST
CHEAPEST
BEST



AS SUPPLIED TO ALL THE PRINCIPAL GOVERNMENTS

FOR ALL CLASSES OF WORK ASHORE AND AFLOAT

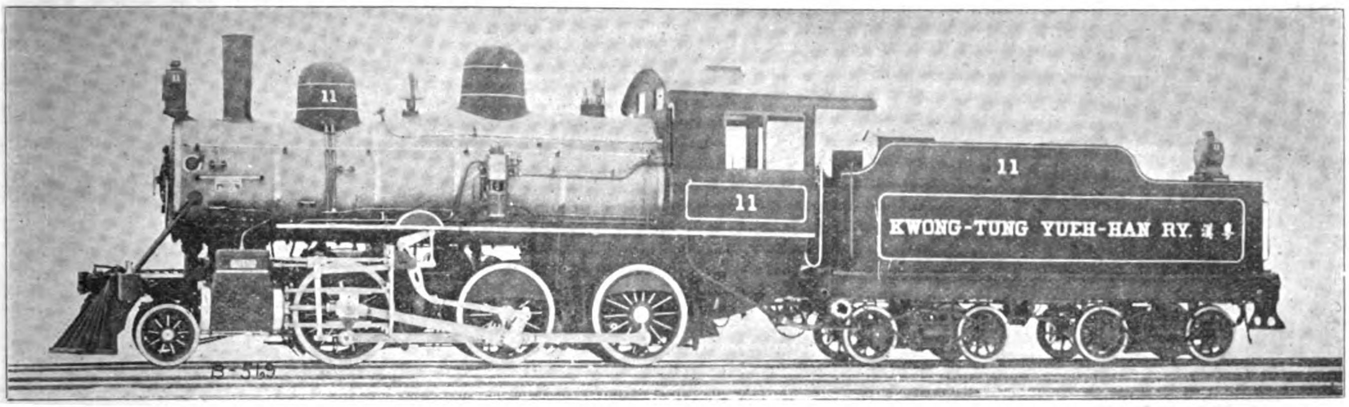
SOLE MAKERS OF

## The "Kingston" Grab Dredger and Excavator

POSSESSES IMPORTANT ADVANTAGES OVER ALL OTHER SYSTEMS

FOR DEEPENING RIVERS, DOCKS, CANALS, AND HARBOURS, EXCAVATING CLAY AND SAND, LIFTING ROCKS, DISCHARGING GRAIN, ETC., ETC.

**CATALOGUE, ESTIMATES AND FULL INFORMATION ON APPLICATION**




# MITSUI BUSSAN KAISHA

ENGINEERING DEPARTMENT

Tokyo, Hongkong, Shanghai, Tientsin, Newchwang, Canton, Hankow, Dairen, Mukden, Changchun, etc.

**Locomotives, Passenger Coaches, Freight Cars, Bridges, Rails, etc.**

**Railways equipped throughout with the most modern Standard Appliances**

RAILWAYS IN CHINA FULLY OR PARTIALLY EQUIPPED WITH MATERIALS SUPPLIED BY THE MITSUI BUSSAN KAISHA

SOUTH MANCHURIA RAILWAY; ANTUNG-MUKDEN LINE; KIANGSI RAILWAY; PEKING-HANKOW RAILWAY; KIANGSU RAILWAY; CHEKIANG RAILWAY; SWATOW-CHAOCHOWFU RAILWAY; ETC.

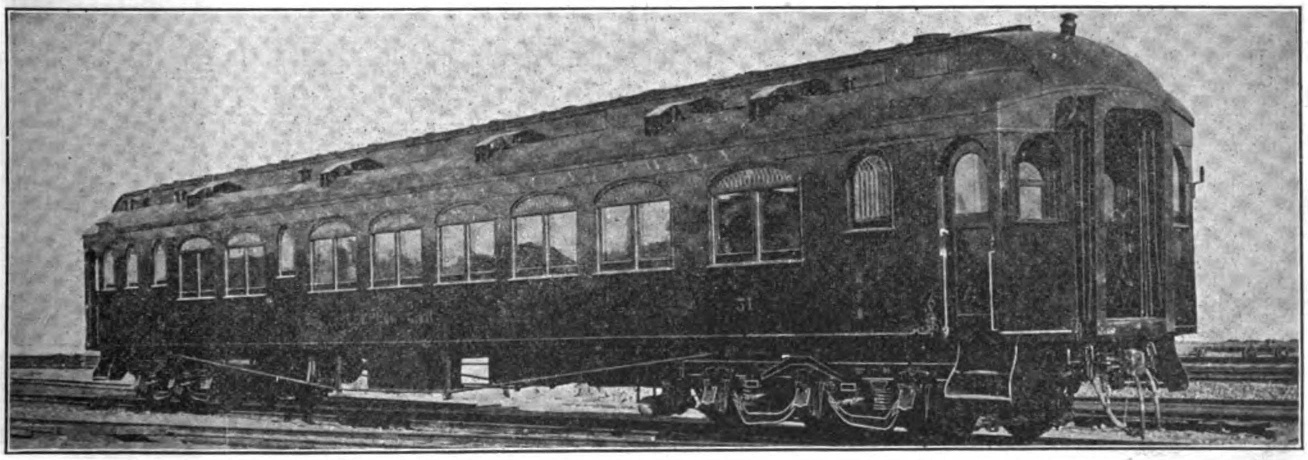
AGENTS IN JAPAN, KOREA, MANCHURIA AND CHINA FOR

**American Locomotive Co., Gould Coupler Co., The Pullman Co., Safety Car Heating & Lighting Co., Jones Laughlin Steel Co., Union Switch & Signal Co., etc.**

AGENTS FOR JAPAN AND KOREA:

**The Pyle National Headlight Co.**

RAILWAY MACHINE SHOPS FITTED COMPLETE WITH THE MOST APPROVED TYPES OF SPECIAL MACHINE TOOLS.



PULLMAN SLEEPING CAR ON THE SOUTH MANCHURIA RAILWAY

**Supplied by the MITSUI BUSSAN KAISHA**

KOBE
CANTON
HONGKONG
SHANGHAI
TIENTSIN
NEW YORK

# SHEWAN, TOMES & Co.

LONDON
OFFICE
27
LEADENHALL
STREET
LONDON, E. C.

**IMPORT AND EXPORT MERCHANDISE, COMMISSION AND SHIPPING AGENTS**

## London—Hongkong—Canton—Shanghai—Tientsin—Kobe—New York

**Telegraphic Address:**
**"KEECHONG," All Branches.**

**Hongkong Post Office Box: No. 131 B**
**Shanghai Post Office Box: No. 84**

## General Managers of

The China Light & Power Co., Ltd., Hongkong
The Green Island Cement Co., Ltd., Hongkong
The Hongkong Rope Mfg. Co., Ltd., Hongkong
The China Provident Loan & Mortgage Co., Ltd., Hongkong
The Whangpoo Wharf and Godown Co., Ltd., Shanghai
The China and Manila Steamship Co., Ltd., Hongkong
The Canton Land Co., Ltd.
Equitable Life Assurance Society of the United States, Hongkon

## Agents for

American Asiatic Steamship Co.
American Manchuria Line, Hongkong
J. Marke Wood's Line of Steamers
The Yangtsze Valley Company, Ltd.
The Electric Traction Co. of Hongkong, Ltd.
The American China Development Co.
The Yangtsze Insurance Association, Ltd., Hongkong
World Marine Insurance Co., Hongkong
Reliance Marine Insurance Co., Hongkong
Union Marine Insurance Co., Ltd., Hongkong
Batavia Sea and Fire Insurance Co., Hongkong
Glen Line of Steamers, Hongkong
The British Dominions Marine Insurance Co., Ltd., Hongkong
North British & Mercantile Insurance Co., Hongkong
Law Union & Crown Insurance Co., Hongkong
Yorkshire Fire and Life Insurance Co., Hongkong
Fireman's Fund Insurance Co. (Fire only), Hongkong
Insurance Company of North America, Hongkong
The Chinese Engineering and Mining Company, Ltd., Hongkong
Shanghai Pulp and Paper Co., Ltd., Hongkong
The International Sleeping Car and Express Trains Co., Hongkong
(Trans-Siberian Railway), Hongkong
Tacoma Grain Co.
Birkmyre Bros.

# MACHINERY DEPARTMENT

## Shanghai, Telephone No. 3487

**ELECTRIC LIGHT & POWER PLANTS. RAILWAY, MINING, MILL AND INDUSTRIAL PLANTS AND EQUIPMENT; SAFETY WATER-TUBE BOILERS; STEAM TURBINES; PUMPS, GAS ENGINES, PRODUCERS, ETC. ENGINEERING AND ELECTRICAL SUPPLIES**

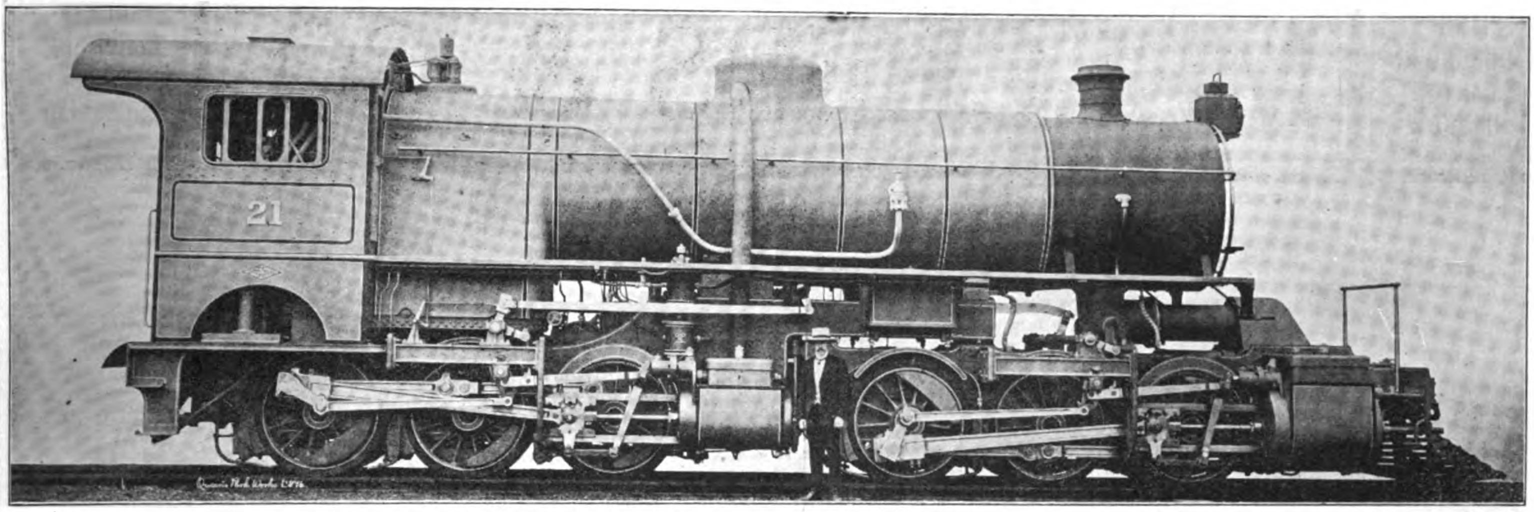
上海英商新旗昌洋行機器處廣告

本行樓子房現設江西路六號　電話三四八七號

本行經理各種機器如紡織碾米榨油磨麪造紙開礦墾荒抽水挖泥大小火輪全副引擎鍋爐及火車頭客車貨車鐵路材料並自來水一切物件其餘鋸木車鑽刨床各式大小引擎鍋爐及磨電機發動機煤氣引擎發煤氣機以及得律風電燈電氣應用一切另件等具色色俱全均係外洋著名廠家特別精造新式玲瓏堅固但各項名目繁多未便盡載倘承賜顧或蒙函詢嘗即竭誠詳細奉答價亦格外克己以廣招徠尚祈惠臨方知言之不虛謬也

**SOLE REPRESENTATIVES IN CHINA FOR**

British Insulated & Helsby Cables Ltd. (Hongkong and S. China).
British Westinghouse Electric & Manufacturing Co., Ltd.
Browett Lindley & Co., Ltd., England.
Barber Asphalt Paving Co., U. S. A.
Fraser & Chalmers Ltd., England.
J. G. Brill Co.
Lima Locomotive & Machine Co., U. S. A.
The London Phosphor, Copper & Bronze Co.
Manning, Maxwell & Moore, Inc., U. S. A.
Power Pulley Co., Ltd., England.
Power Gas Corporation Ltd., England, (except bituminous plants)
Ransomes, Sims & Jefferies, Ltd., England.
Rhodes Motors Ltd., England
Sullivan Machinery Co., U. S. A., South China.
Turner Bros. Ltd., England, North China.
Wason Manufacturing Co., U. S. A.
The Wolf Co., U. S. A.
Wolverine Motor Works, U. S. A.
Water Tube Boiler Co., Ltd., England




MALLET TYPE ENGINE FOR THE PEKING-KALGAN LINE MADE BY THE NORTH BRITISH LOCOMOTIVE CO.

# North British Locomotive Co., Ltd.

**HYDE PARK WORKS** (Late NEILSON, REID & CO.)

**QUEEN'S PARK WORKS** (Late DUBS & CO.)

**ATLAS WORKS** (Late SHARP, STEWART & CO., Ltd.)

Head Office and Administration Building: SPRINGBURN, GLASGOW

LONDON OFFICE:—17, VICTORIA STREET, WESTMINSTER, S. W.

Telegrams: LOCO., GLASGOW

BUILDERS OF ALL KINDS OF

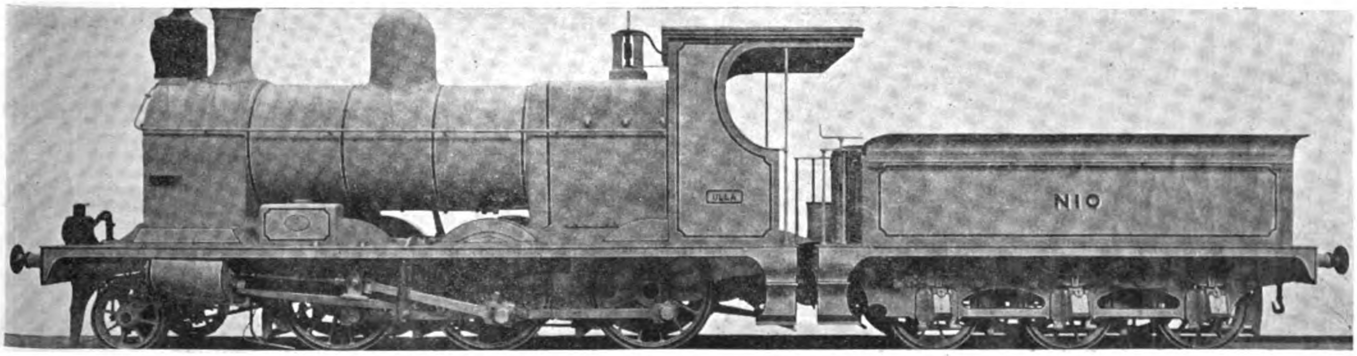
## Locomotive Engines and Tenders Suitable for any Gauge of Railway

| ANNUAL CAPACITY: | WORKSHOPS EQUIPMENT: | OUTPUT NOW EXCEEDS: |
|---|---|---|
| 700 | 8000 | 19,000 |
| MAIN LINE LOCOMOTIVES | MEN | LOCOMOTIVES |

## AGENTS IN THE EAST

**China: Messrs. Jardine Matheson & Co., Ltd., Hongkong and China**

**Japan and Manchuria: Messrs. Okura & Co., Tokyo**



TYPE OF NORTH BRITISH LOCOMOTIVE SUPPLIED TO THE TIENTSIN-PUKOW—SOUTHERN SECTION

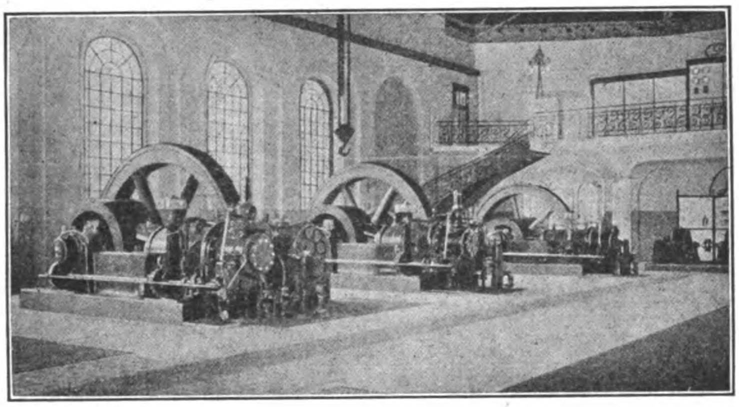
## THE LARGEST LOCOMOTIVE WORKS IN EUROPE

SHANGHAI
HONGKONG
CANTON
HANKOW

# MELCHERS & CO.

BREMEN
TIENTSIN
ICHANG
CHUNGKING

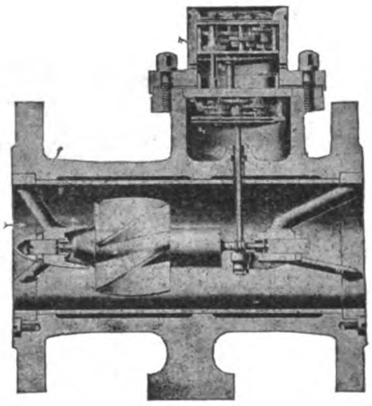
*Cable Address:* MELCHERS.

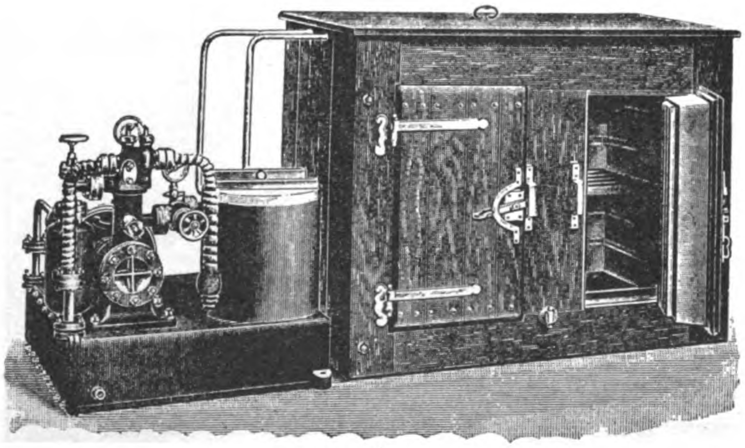


ELECTRIC POWER STATION WITH 3,400 HP. KOERTING'S GAS ENGINES SUCTION GAS PLANTS UP TO 500 HP. FOR ALL FUELS

**Waterworks**
Designing and Construction.
Pumps—Pipes.
*Carl Francke, Bremen.*

**Watermeters.** Wet running Dry running and Woltmann System.
*Breblauer Metallgieperei, Breslau.*





ICE-MAKING AND REFRIGERATING PLANTS

from the smallest to the largest capacities. Small Ice-making and Refrigerating Plants for Hotels, Hospitals, Private Houses "System Ziegler." Safe—Reliable—Simple.

## *General Agents for:*

High Speed Steam Engines "Roland"
Steam Turbines System "Zoelly"
Ship machinery, as Winches, Pumps, Engines
*Norddeutsche Maschinen & Armaturen Fabrik G. m. b. H. Bremen*

Diesel Motors, Gas Engines, Suction Gas Plants
Koerting's Injectors, Ejectors, Heating Plants
*Gebr. Koerting, A. G. Koertingsdorf/Hannover*

Watertube Boilers, System Garbe, Marine Boilers
*Duerr & Co., Ratingen*

Dredgers for Harbour and River Work, Barges
Steam Tugs, Gold Dredgers, Hoppers
*Werf Conrad, Haarlem*

Marine Motors "Kromhout," Motor Boats
*Gebr. Goedkoop, Amsterdam*

Slow Speed Steam Engines, Condensing Plants
*Maschinenbau Anstalt A. G. Goerlitz*

Electrical Fittings, "Bergmann" Tubes, Meters
*Bergmann Electricitaets Werke, A. G. Berlin*

Electric Cables & Wires, Telephone & Telegraph Wires
*Dr. Cassierer, Charlottenburg*

Electric Fans, Small Motors, X Ray Apparatus
*Dr. Max Levy, Berlin*

Telephones, Central Stations, Bells
*Telephonfabrik vorm. F. Berliner, Hannover*

Textile Machinery, Bleaching & Dyeing
Finishing & Printing Plants for Cotton, Linen, Wool
*Fr. Gebauer, Berlin*

Ice-making & Refrigerating Plants, Centrifugal.
*Leopold Ziegler, Berlin*

Wood-working Machinery, *Teichert & Sohn*

"Atlas" Cranes, Electric Cranes, Differential Blocks
*Eduard Weiler, Berlin*

Steel Constructions, Steel Bridges, etc.
*Louis Eilers, Hannover*

Watermeters, Woltmann Meters
*Bresslauer Metallgiesserei, Breslau*

# EASTERN ENGINEERING COMPANY

ARCHITECTS AND ENGINEERS

Special attention paid to Reinforced Concrete Designing : : : : : :

**Correspondence Solicited**

Rooms 10 and 11 LACK & DAVIS Bldg. Manila, P. I.

# HOTEL DE FRANCE

PLAZA GOITI, MANILA

Best Appointed Hotel in Manila in Heart of Business Section.—Large Sample Rooms.—Hot and Cold Water.—Elegant Banquet Hall.—Private Dining Rooms.—French Cuisine.—Guides for Tourists.—Interpreter meets all Steamers.

Cable Address: CAMPS

## A High Grade Dry Cell

25 AMPERES OVER
1½ VOLTS

*Guaranteed*

Specially adapted to cope with Oriental Climatic Conditions.

Replace All Others Wherever Used

# SOLIGNUM

THE RAVAGES OF THE **WHITE ANT**, DECAY, FUNGUS AND DRY ROT DESTROY PROPERTY TO THE VALUE OF MILLIONS YEARLY

THE ONLY SURE AND RELIABLE PROTECTION IS

# "SOLIGNUM"

CAN BE APPLIED IN MANY SHADES OF COLOR TO STONE, WOOD OR BRICKWORK. SOLD IN 5 AND 10 GALLON DRUMS AND 40 GALLON CASKS

# PROTECTS

*For Sale by* **THE CHINA IMPORT EXPORT LUMBER CO., Ltd.** SHANGHAI, HANKOW TIENTSIN, TSINGTAU

*Hongkong and Canton: SIEMSSEN & CO. -:- Foochow: SIEMSSEN & KROHN -:- Amoy: PASEDAG & CO*

# THE PREMIER COMPANY OF THE EAST

## Agencies from London to Manchuria

EXTRACT FROM 12th ANNUAL REPORT
SHEWING A RECORD PROGRESS : : :

| | |
|---|---|
| Insurance in Force | $37,855,885 |
| Assets | $ 8,415,250 |
| Income | $ 3,566,559 |
| Total funds | $ 8,216,812 |

*Low Rates!*
*Unconditional Policy!*
*Largest Bonuses!*

Registered under Hongkong Ordinances and under the Life Assurance Companies' Acts, England; and offers its Home-Returning policyholders the Double Advantage of being able to pay their Premiums to the Company's London and American Agents, Messrs. Thomas Cook and Sons, at reduced rates.

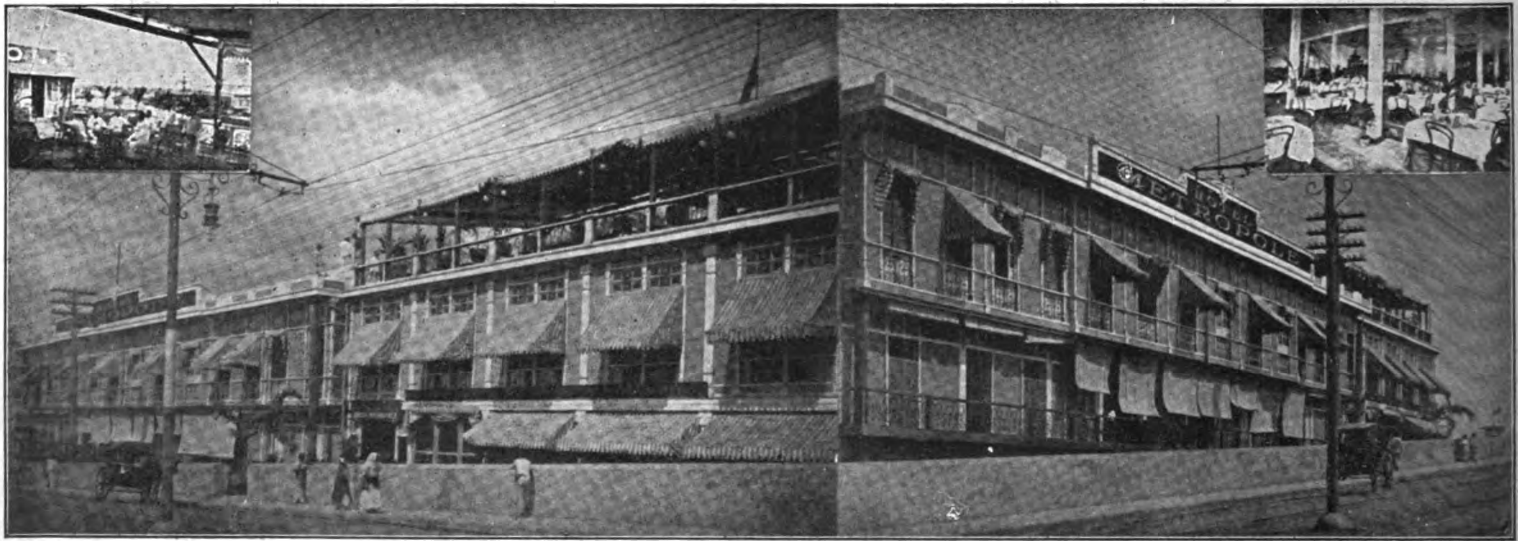
# NEW METROPOLE HOTEL

CABLE ADDRESS:
"METROPOLE" MANILA

## MANILA, P. I.

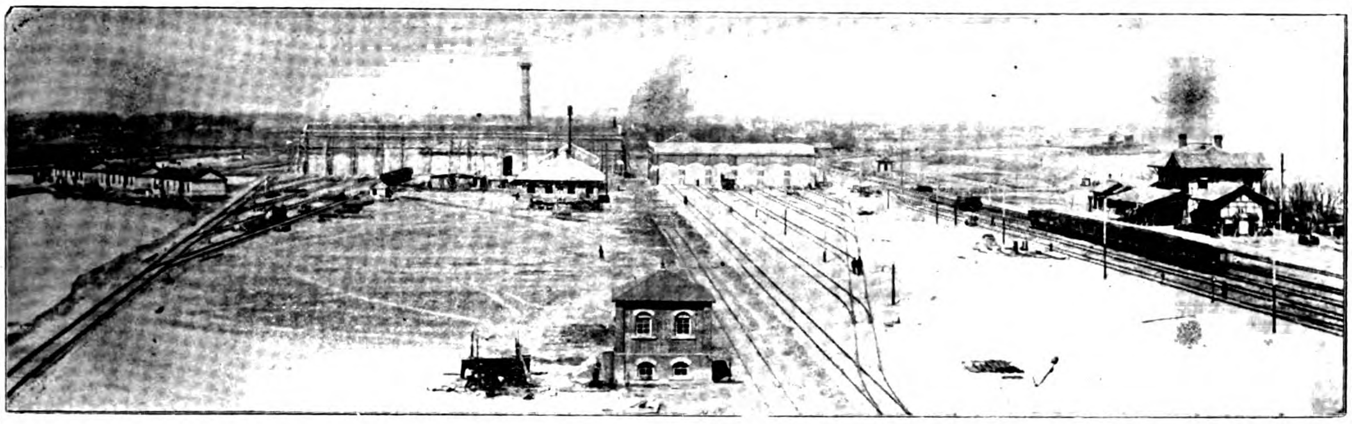
AMERICAN AND
EUROPEAN PLAN.

THIS MAGNIFICENT HOTEL HAS JUST BEEN COMPLETED AND IS FURNISHED IN THE MOST UP-TO-DATE MANNER. COMMODIOUS, WELL-AIRED, LIGHTED, AND SPACIOUS BEDROOMS




NEW METROPOLE HOTEL SHOWING ROOF GARDEN

¶ Private Dining Rooms for Banquets, Wedding Parties, etc.
¶ Roof Garden from which a Panorama of the Pasig River and Manila may be enjoyed.
¶ Centrally Located. Modern and Up-to-date—Cool and Well Ventilated—Electric Fans in all rooms—Excellent Service.

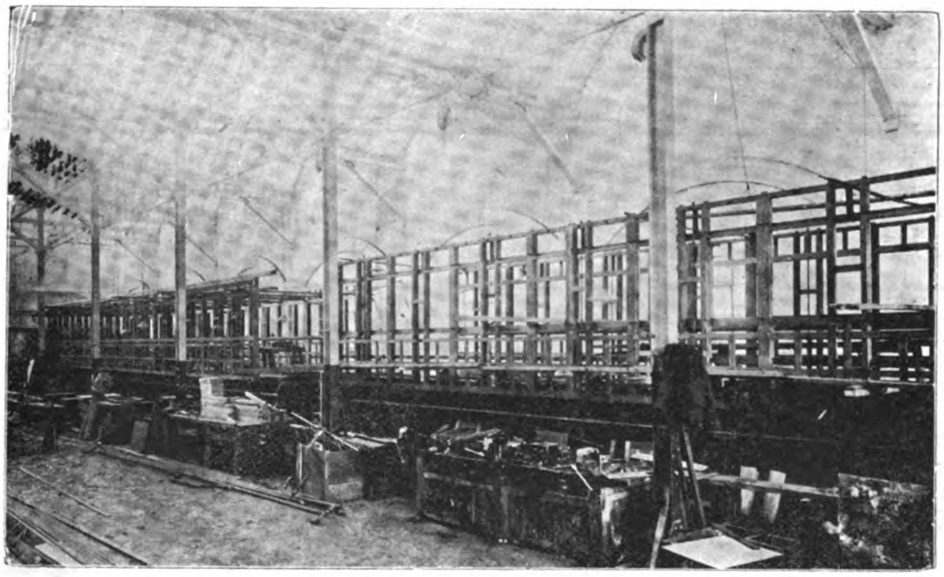


# WOOSUNG CAR SHOPS

OF THE

## SHANGHAI -:- NANKING -:- RAILWAY

LOCATED AT WOOSUNG AT ENTRANCE TO WHANGPOO RIVER, SHANGHAI. DEEP WATER WHARF WITH EVERY FACILITY FOR HANDLING HEAVY MATERIAL.



VIEW OF ERECTING SHOP

THESE SHOPS ARE FULLY EQUIPPED WITH THE MOST MODERN PLANT AND APPLIANCES FOR THE CONSTRUCTION OF CAR BODIES AND SETTING UP CAR PARTS ORDERED FROM ABROAD, ALL UNDER EXPERT SUPERVISION : : : : : : : : : : : : : : : : : :

**CARS FOR THE NANKING CITY RAILWAY, KIANGSU RAILWAY AND THE ANHWEI RAILWAYS WERE SET UP AND FINISHED AT THESE WORKS**

CORRESPONDENCE WITH OTHER RAILWAY COMPANIES SOLICITED

## SHANGHAI NANKING RAILWAY

Managing Director
TAOTAI CHUNG MUN-YEW

General Manager
A. W. U. POPE

TELEPHONE 1108.

TELEGRAPHIC ADDRESS: "HARDWARE, SHANGHAI."

HEATING, LIGHTING AND SANITARY ENGINEERS.

GORDON & COMPANY

110 SZECHUEN ROAD, SHANGHAI

STEAM OR HOT WATER HEATING PLANTS

AGENTS FOR THE CARRON COMPANY OF FALKIRK, SCOTLAND

STOVES AND FIRE GRATES

MODERN BATH-ROOM LUXURIES

HOT AND COLD WATER AND SANITARY FITTINGS

OUTPORT WORK A SPECIALTY

SAN MIGUEL BREWERY

MANILA, P. I.

*The Largest and Most Modern* Brewery

IN THE FAR EAST

*Get into the Habit of Asking for* San Miguel

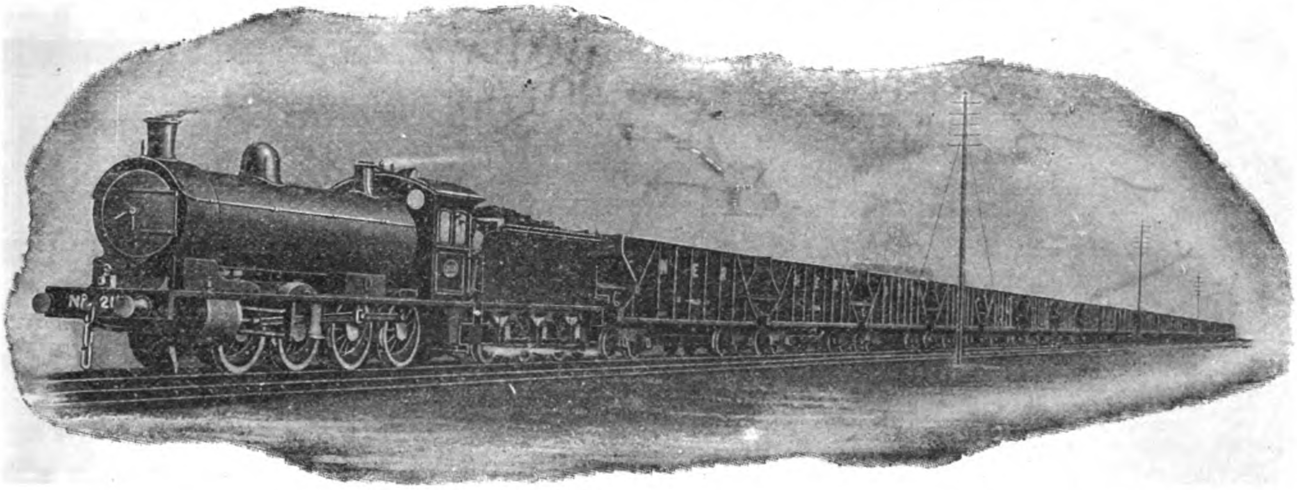
IT IS ABSOLUTELY PURE

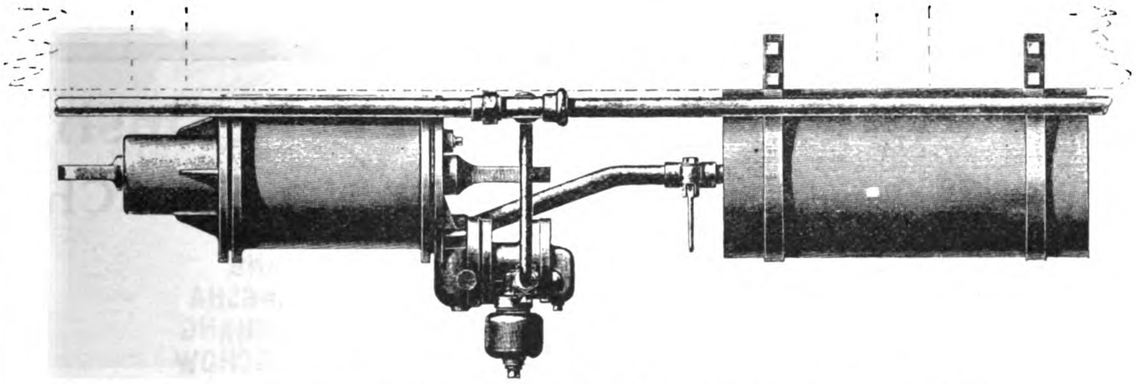
Containing No Trace of Injurious Chemicals

# THE WESTINGHOUSE BRAKE

**N. E. R. Goods Train fitted with the Westinghouse Brake and Friction Draft Gear.**

**STANDARD ON MORE RAILWAYS THAN ANY OTHER BRAKE**





APPLICATION OF IMPROVED TRIPLE VALVE TO CHINESE RAILWAY CARRIAGES OR WAGONS

**THE 3½" IMPROVED WESTINGHOUSE TRIPLE VALVE: SIMPLE IN CONSTRUCTION AND ESPECIALLY DESIGNED TO MEET THE REQUIREMENTS OF FAR EASTERN RAILWAYS**

Manufactured and furnished solely by

## The Westinghouse Brake Co., Ltd.

London

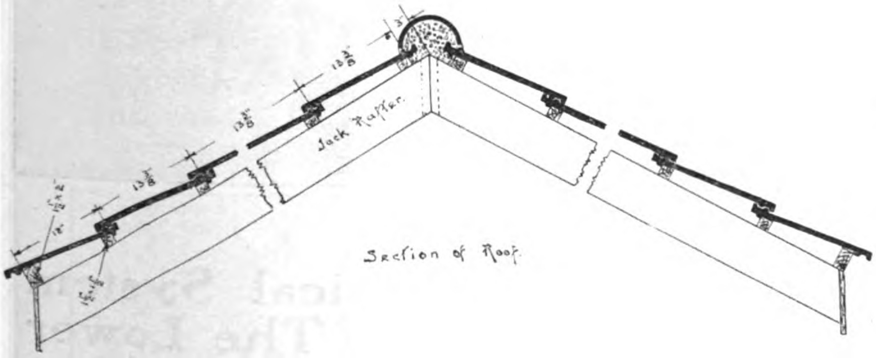
JARDINE MATHESON & CO., LTD.

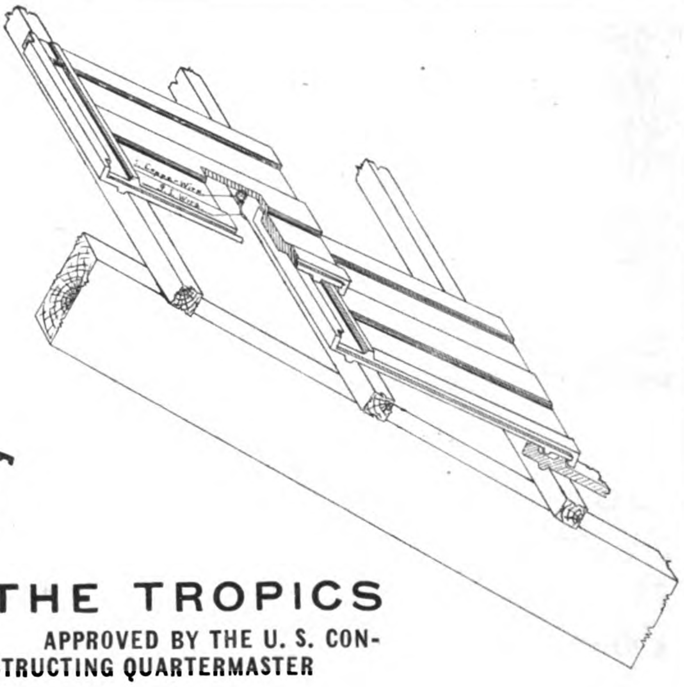
Sole Agents for China

---

# DOUBLE INTERLOCKING REINFORCED CEMENT ROOFING TILE

PATENT APPLIED FOR



## THE ROOFING FOR THE TROPICS

ADOPTED BY THE PHILIPPINE GOVERNMENT AS ITS STANDARD

APPROVED BY THE U. S. CONSTRUCTING QUARTERMASTER

## C. FRESSEL & CO.

G. LUDEWIG S. EN C. SUCCESSORS

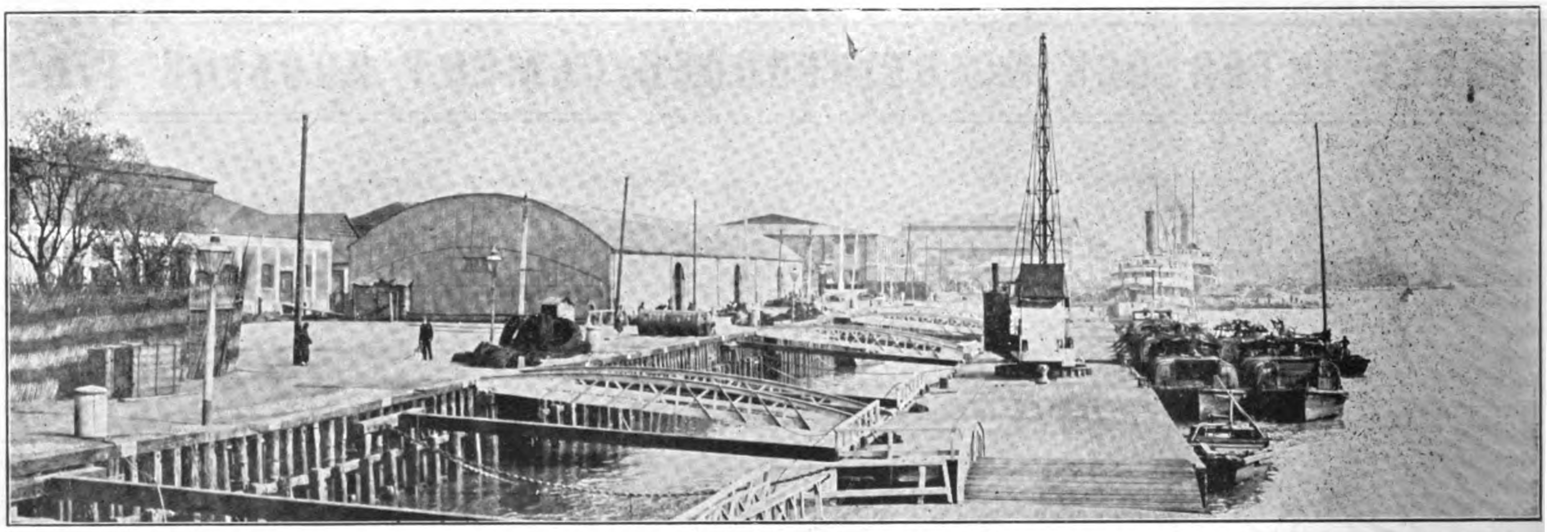
**Office: 118-122 Nueva, Binondo, Manila, P. I.**

P. O. Box 455 — Cable Address: FRESSEL. Codes Used: A. B. C. 4th and 5th Editions — Telephone 195

## Operating Coast and River Steamships

### Between Shanghai and all the Principal Ports of China

| | | | |
|---|---|---|---|
| SHANGHAI | AMOY | NANKING | ICHANG |
| CHEFOO | SWATOW | WUHU | CHANGSHA |
| TIENTSIN | HONGKONG | KIUKIANG | NANCHANG |
| NEWCHWANG | CANTON | HANKOW | HANGCHOW |
| FOOCHOW | CHINKIANG | SHASI | SOOCHOW, ETC. |



VIEW OF LOWER HONGKEW WHARVES

**Operating the Most Extensive and Economical System of Wharves and Warehouses in Shanghai. The Lower HongKew, Central, Eastern, and YangKadoo Wharves Possess Every Facility for Quick and Economical Dispatch.**

GOODS FROM ANY PART OF THE WORLD MAY BE CONSIGNED TO OUR BONDED WAREHOUSES, AND WILL BE DISCHARGED AND STORED AT LOWEST RATES, SUBJECT TO DELIVERY AT ANY TIME TO AUTHORIZED PARTIES

H. E. TAOTAI M. Y. CHUNG
MANAGING DIRECTOR
NO. — BUND

THOMAS H. HARRIS
GENERAL MANAGER
LOWER HONGKEW WHARVES

CABLE ADDRESS:
"FEDERATION"

# GERMANN & CO., Ltd.

PHONE 500
P. O. BOX 310

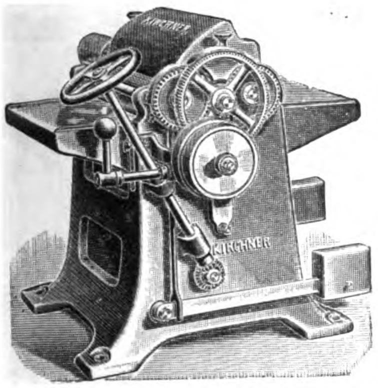
## Electrical and Mechanical Engineers and Contractors

3 PASAJE DE PEREZ, MANILA, P. I.

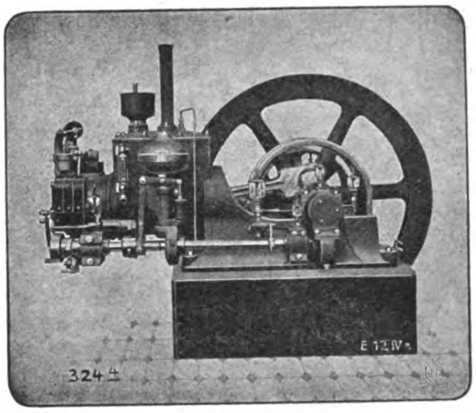
GENERAL MACHINERY AND SUPPLIES

ELECTRIC LIGHT AND POWER PLANTS

SCIENTIFIC APPARATUS AND INSTRUMENTS



KIRCHNER'S PLANER



PETROLEUM MOTOR ENGINE

COMPLETE INDUSTRIAL AND AGRICULTURAL MACHINERY OUTFITS

CONSULTING AND CONSTRUCTING ENGINEERS

REPRESENTING LEADING MANUFACTURERS OF THE UNITED STATES AND EUROPE

# THE ROBERT DOLLAR CO.

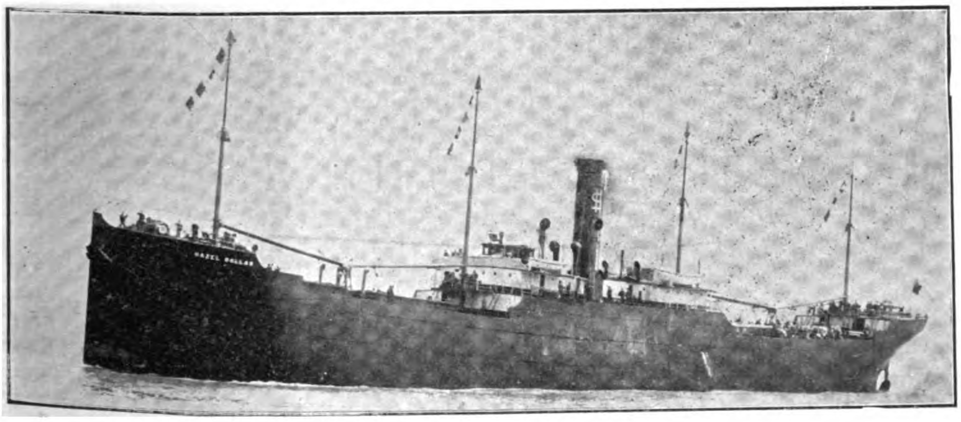
HEAD OFFICE:
160 California St., San Francisco, Cal.

CHINA OFFICE:
13 Nanking Road, Shanghai

## Mills at Tacoma, Wash., and Portland, Ore., U. S. A.

STEAMERS

BESSIE DOLLAR - - - - - - - HAZEL DOLLAR
STANLEY DOLLAR - - - - - - - M. S. DOLLAR
MELVILLE DOLLAR - - - - - HAROLD DOLLAR
GRACE DOLLAR



S. S. "HAZEL DOLLAR"

MANUFACTURERS OF OREGON PINE, CALIFORNIA RED WOOD AND CREOSOTED SLEEPERS

OUR MILLS ARE ESPECIALLY EQUIPPED FOR SUPPLYING RAILWAY TIMBER ORDERS, AND WE MAKE PROMPT DELIVERY BY OUR OWN STEAMERS

CABLE ADDRESS:
"DOLLAR"

A. B. C. 5th Ed.: Southard's Codes

# United States Steel
## PRODUCTS EXPORT CO.

**24a Kiangse Road, Shanghai**

## Exporters of the Products of

*Carnegie Steel Co.*
*Lorain Steel Co.*
*Illinois Steel Co.*
*Shelby Steel Tube Co.*
*National Tube Co.*
*Western Tube Co.*
*Tennessee Coal & Iron Co.*
*American Sheet & Tin Plate Co.*
*American Steel & Wire Co.*
*American Bridge Co.*

## Manufacturers of

Bridges, Steel Rails, Bolts and Spikes, Switches and Crossings, Steel Cross Ties, Schoen Steel Wheels, Forged Axles, Coil Springs, Tubular Poles, Buildings, Steel Plates, Shapes, Concrete Reinforcement, Shafting, Merchant Bars, Tool Steel, Hoops, Corrugated Sheets, Tin Plate, Boiler Tubes, Gas, Steam and Water Pipe, Pipe Fittings, Wire Nails, Wire Rope, Steel and Copper Wire, Wire Fencing, Horse Shoes,

CARNEGIE STEEL SHEET PILING

*Designs and Estimates Submitted for Bridges and Steel Buildings Erected Complete*

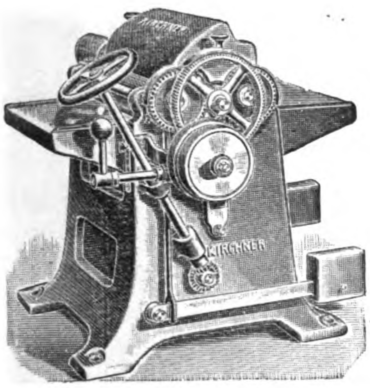
CABLE ADDRESS: "FEDERATION"

# GERMANN & CO., Ltd.

PHONE 500
P. O. BOX 310

## Electrical and Mechanical Engineers and Contractors

3 PASAJE DE PEREZ, MANILA, P. I.

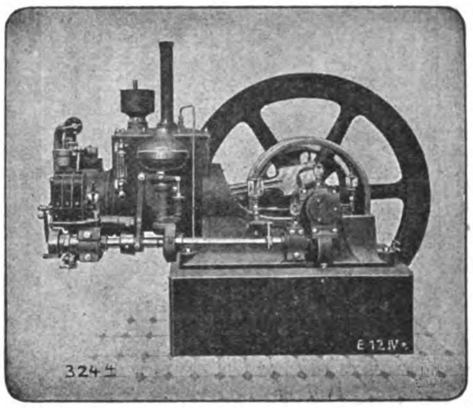


KIRCHNER'S PLANER

GENERAL MACHINERY AND SUPPLIES

ELECTRIC LIGHT AND POWER PLANTS

SCIENTIFIC APPARATUS AND INSTRUMENTS



PETROLEUM MOTOR ENGINE

COMPLETE INDUSTRIAL AND AGRICULTURAL MACHINERY OUTFITS

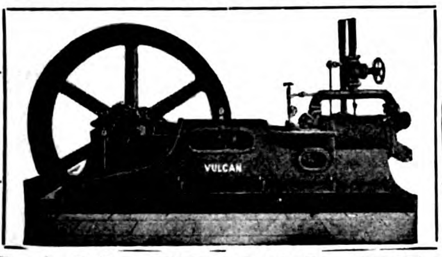
CONSULTING AND CONSTRUCTING ENGINEERS

REPRESENTING LEADING MANUFACTURERS OF THE UNITED STATES AND EUROPE



# ICE MACHINES

OF ANY DESIRED CAPACITY

VUL  CAN

# VULCAN IRON WORKS

San Francisco, California, U. S. A.

SEND FOR CATALOGUE Cable Address: "VULCAN" San Francisco

No. E-5008
Cable Name "Chindiv n";
Price $169.75 (£35-7s 4d)
Crated and F. O. B. Vessell,
New York.

# Big Vehicle Values

"Murray" Vehicles and Harness at a Saving from 25 to 40%

Why buy vehicles and harness from a dealer when you can save from 25 to 40% by buying direct from The Wilber H. Murray Mfg. Co., one of the best known vehicle, harness and saddle concerns in the world! "Murray" products are sold in every part of the world and are well known especially for our famous

"Murray" Guarantee of Quality

Every "Murray" product is backed by our guarantee to be as represented, and you can be sure that you will make no mistake in dealing with us, as there is no question as to our responsibility and financial standing, and our honesty in dealing for the past 24 years has resulted in thousands of satisfied customers.

The "Murray" Style Book No. 192 Absolutely Free

We cordially invite you to write for our "Murray" Style Book for 1910, which contains 152 pages, illustrating and describing 251 different designs, many of them in colors, among them 138 styles of carriages of the latest designs, 74 styles of harness and a fine saddle stock.

No. E 5001 Cable Name "Chimolo". Price $46 75 (£9-14 S- 10 d) Crated and F O B Vessell New York

THE WILBER H. MURRAY MFG. CO.
321 to 329 East Fifth Street, Cincinnati, Ohio, U. S. A.



# The Philippine Journal of Science

Edited by

PAUL C. FREER, M. D., Ph. D.

*A Journal devoted to the scientific work done in the Philippine Islands by the members of the Staff of the Bureau of Science, and by other scientific workers.*

PUBLISHED BY THE BUREAU OF SCIENCE OF THE PHILIPPINE ISLANDS

Volume V will begin January, 1910:

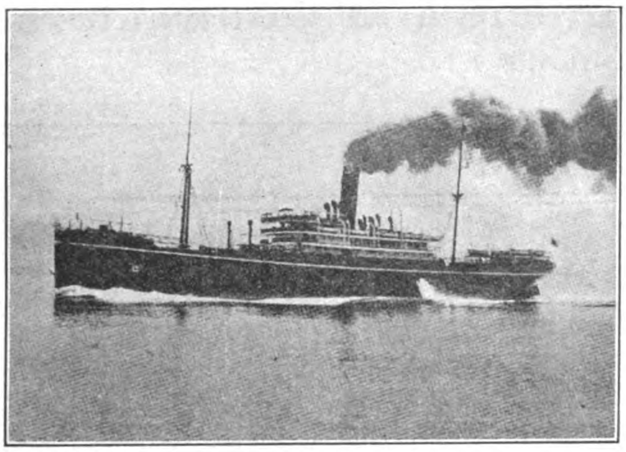
| | | |
|---|---|---|
| The entire Journal | $5.00 | U. S. currency |
| Section A, General Science | 2.00 | U. S. currency |
| Section B, Medical Sciences | 3.00 | U. S. currency |
| Section C. Botany | 2.00 | U. S. currency |
| Single Numbers | .50 | U. S. currency |

Each section is separately paged and indexed.

A limited number of unbound copies of previous volumes are available and can be secured from the Director of Printing at the following rates: Volume 1, 1906 (not divided into sections) $5, U. S. currency; Supplement to Volume 1, $2.50, United States Currency; Volume I (without supplement), $3, United States currency; all later volumes at current subscription prices.

SUBSCRIPTIONS may be sent to the DIRECTOR OF PRINTING, Manila, P. I.

# NIPPON YUSEN KAISHA



(JAPAN MAIL S. S. CO.)

Under Mail Contract with the Imp. Japanese Government

EUROPEAN LINE ..................FORTNIGHTLY
AMERICAN LINE ..................FORWEEKLY (FROM KOBE FORTNIGHTLY)
AUSTRALIAN LINE..................FORTNIGHTLY
YOKOHAMA SHANGHAI LINE.....TWICE A WEEK
SEVERAL LINES BETWEEN JAPAN TO NORTH CHINA, COREA, VLADIVOSTOK, ETC.

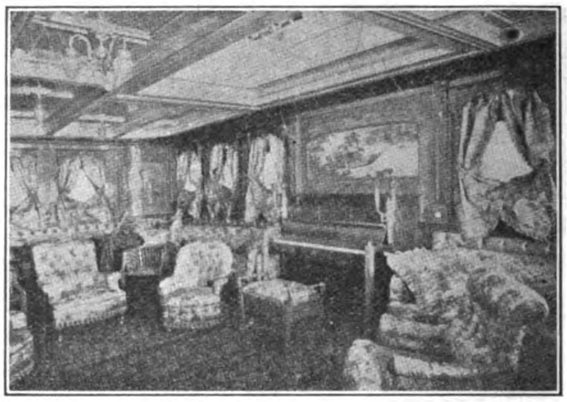
For Further Particulars concerning Freight and Passage, apply

## NIPPON YUSEN KAISHA

SHANGHAI, HONGKONG, YOKOHAMA, KOBE, MOJI, NAGASAKI AND

## WARNER BARNES & CO.

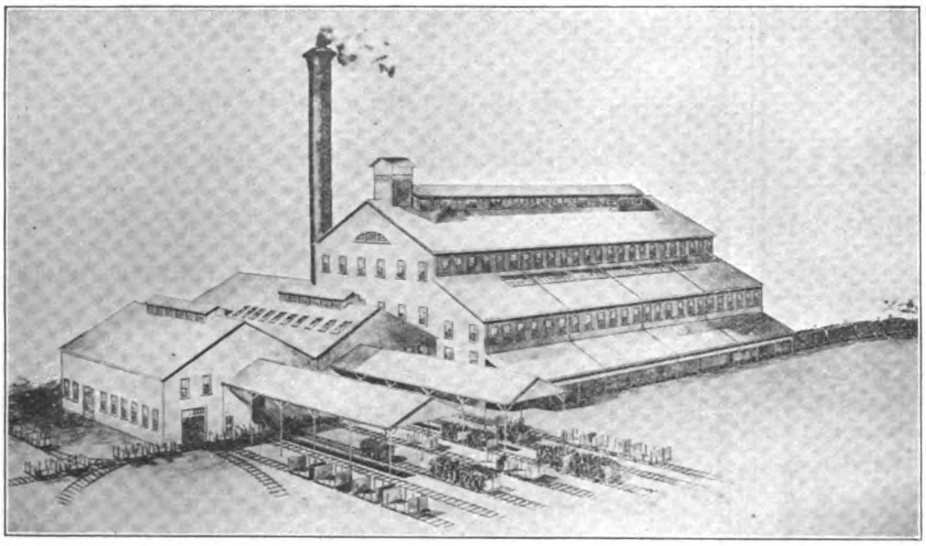
Agents, Manila



SOCIAL HALL S.S. "NIKKO MARU"

# HONOLULU IRON WORKS COMPANY

Established 1852 HONOLULU, TERRITORY OF HAWAII Rebuilt 1899



EWA MILL DESIGNED BY HONOLULU IRON WORKS COMPANY, FOR A CAPACITY OF 2,400 TONS CANE PER DIEM

BUILDERS OF

## Sugar Machinery

OF ALL DESCRIPTIONS

Sugar Mills
Evaporators
Tanks
Cane Cars
Vacuum Pans
Steam Boilers
Riveted Steel Pipe
Cane Unloaders, Etc.

## Consulting Engineers, Designers and Contractors

FOR COMPLETE SUGAR FACTORIES

# HONOLULU IRON WORKS COMPANY

Eastern Office, 11 Broadway, NEW YORK

Cable Address: "HONIRON," Honolulu Codes: A. B. C. 4th and 5th Edition and Western Union

# The Han-yeh-ping Iron and Coal Co., Ltd.

**Telegraphic Address**
**"HANSTEEL"**

**Codes used:**
**A.B.C. 5th Ed., Western Union and Engineering Telegraph Codes.**

**HEAD OFFICE:**
**110, Bubbling Well Road, Shanghai, China.**

The following Works and Mines, the property of the Company, are in active operation:—
HANYANG IRON AND STEELWORKS—situated in Hanyang (Hankow).
PINGHSIANG COLLIERY—situated in Pinghsiang, at border between Kiangsi, and Hunan Province.
TAYEH IRON MINES—situated in Tayeh on the Yangtsze River 72 miles below Hankow.

## HANYANG IRON AND STEEL WORKS

**Works Head Office in Hanyang**

**Sales Office:—45 Szechuen Road, Shanghai, and also in Hongkong and Canton.**

**Representative in Australia:—*L. H. DRAKEFORD.***

PIG IRON

*Foundry*—Largely exported to Japan and America, where it finds the highest favor—Sold by Grain—Can be cast over again.

*Basic Iron*—For steel making also largely exported to America and Japan.

STEEL MATERIALS

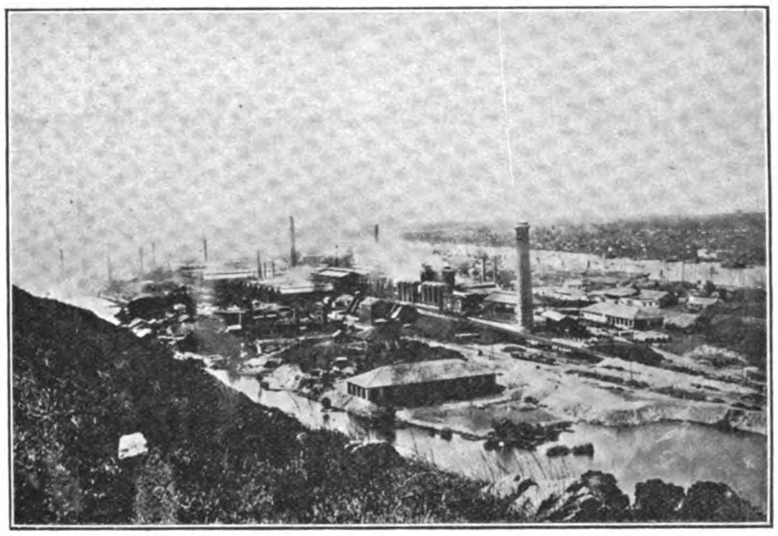
All steel is made by the Siemens-Martin process and supplied to pass any standard tests.

*Railway Supplies*—Standard-Gauge Rails from 50 lbs. per yard (25 kg. per m.) up to 100 lbs. (50 kg. per m.)

*Narrow Gauge Rails*—from 16 lbs. per yard (8 kg. per m.) up to 50 lbs. (25 kg. per m.)

*Fishplates, Spikes, Bolts and Nuts.*

*Structural Shapes*—Bars, Plates and Angles, etc.



SHIPPING DEPARTMENT

The light draft steamer *Han-ping*, fitted with electric lights and strong derricks and running between Hankow and Shanghai, is the best steamer to handle heavy machinery in the Yangtsze River.

WHARF—The Company owns a wharf in Shanghai, situated at Nam Ma Tau on the Pootung Side a little below the Kiangnan Arsenal, with a frontage of about 900 feet and offering excellent accommodation for the storage of Coal or Timber.

For particulars and terms, apply to the Sales Office, No. 45 Szechuen Road, Shanghai.

## PINGHSIANG COLLIERY

**Head Offices and Shipping and Sales Offices:**

**No. 1 Poyang Road, Hankow =:= Sales Office, Shanghai, 45 Szechuen Road**

COAL—Best Steaming Coal—Navy Lump, Run of the Mines, and Washed Nuts. Stocks kept in Yochow, Hankow, Kiukiang, Wuhu, Nanking, Chinkiang, and Shanghai.

Contracts made with the following Companies for the supply of Bunker Coal:—

Messrs. Butterfield & Swire, The Hamburg Amerika Linie, The East Asiatic Co., Ltd., Tung Kee & Co., The Asiatic Petroleum Co., The Standard Oil Co. of New York, and the Robert Dollar Co.

Suppliers also to the following Navies:—

The Imperial Chinese Navy, The British, German, and French Navies.

COKE.—Foundry and Blast Furnace—Exported also to Japan and America.

For particulars as regards prices, etc., application may also be made to Johnsen & Herlofson, 8 Kiangse Road, Shanghai.

TELEPHONE 459
P. O. BOX 761

Cable Address: "MERCHMAN"
A. B. C. 5th Ed. Code, Western Union

# Electrical Supply Company, Inc.

ELECTRICAL BUILDING

Plaza Moraga -:- Manila, P. I.

Importers and Dealers
of Electrical Materials
and Supplies

Contractors

Builders of Lighting
and Power Plants

Manufacturers of

**Fixtures,**
**Dry Batteries,**
**and Carbons**

All sizes of wires and cables carried in stock

*Additional Agencies Solicited*

# THE PHILIPPINE JOURNAL OF SCIENCE

## A Journal Devoted to the Scientific and Commercial Investigation of the Tropics.

EDITOR: PAUL C. FREER, M. D., Ph. D.

CO-EDITOR: RICHARD P. STRONG, Ph. B., M. D.

*Published by the Bureau of Science, Government of the Philippine Islands.*

Section A includes papers on (1) chemical research work, especial stress being placed on the investigation of the natural resources and products of the Islands, (2) geology, mineralogy and mining, (3) systematic and economic entomology, ornithology and icthyology, and (4) the ethnology and ethnography of the Malayan group.

Section B is devoted to studies on the causes, etiology, pathology, prophylaxis and treatment of tropical diseases; serum therapy and work on immunity.

Section C presents the results of research in both systematic and economic botany.

It is the intention to divide Section A in the near future and to form an additional section (D) which will be devoted to chemistry, geology, mineralogy and mining.

**SPECIMEN CONTENTS OF RECENT NUMBERS:**

Vol. IV.—1.—Section A: 91 pages; photographic plates, maps, etc.
- FERGUSON, HENRY G. Physiography of the Philippine Islands.
- SMITH, WARREN D. Contributions to the Physiography of the Philippine Islands.
- BEAN, ROBERT BENNETT. Filipino Ears. A classification of Ear Types.
- GRIFFIN, LAWRENCE E. Two New Species of Snakes Found in the Philippines.
- SEALE, ALVIN. The Fishery Resources of the Philippine Islands. II. Sponges and Sponge Fisheries.
- McGREGOR, RICHARD C. A Collection of Birds from Northern Mindanao.
- McGREGOR, RICHARD C. Philippine Ornithological Literature, II.
- EDITORIAL.
- REVIEW.

Vol. IV.—3.—Section B: Photographic plates, diagrams, etc.
- COCA, A. F. Upon the Bactericidal Substances in Fibrin.
- MARTINI, ERIC. The Development of Piroplasma and Trypanosoma of Cattle in Artificial Culture Media.
- GARRISON, PHILIP E. and LEYNES, RICARDO. The Development of the Miracidium of Paragonimus Under Various Physical Conditions.
- GARRISON, PHILIP E. and LLAMAS, ROSENDO. The Intestinal Worms of 385 Filipino Women and Children in Manila.
- ARON, HANS. Some Investigations Concerning the Food and Nutrition of the Filipino People.
- STRONG, RICHARD P. The Relation of the Indian Form of Relapsing Fever to African Tick Fever.
- GRIFFIN, LAWRENCE E. Poisonous Snakes of the Philippine Islands.
- EDITORIAL.

Vol. IV.—2.—Section C:
- BRAND, A. Additional Philippine Symplocacae.
- COPELAND, EDWIN BINGHAM. New and Interesting Philippine Ferns.
- MERRILL, E. D. A Revision of Philippine Connaraceae.
- MERRILL, E. D. A Revision of Philippine Loranthaceae.
- RIDLEY, H. N. The Scitamineae of the Philippine Islands.

**PRICES:**

**Section A. $2, U. S. currency.**
**Section B. $3, U. S. currency.**
**Section C. $2, U. S. currency.**
**Entire Journal $5, U. S. currency.**
**Single Numbers, 50 cents, U. S. currency.**

FOREIGN AGENTS:

THE MACMILLAN COMPANY, 64-66 Fifth Avenue, New York City.
Messrs. WM. WESLEY & SON, 28 Essex Street, Strand, London, W. C.
Mr. MARTINUS NIJHOFF, Nobelstraat 18, The Hague, Holland.
Messrs. MAYER & MULLER, Prinz Louis Ferdinandstrasse 2, Berlin, N. W.
Messrs. KELLY & WALSH, LIMITED, 32 Raffles Place, Singapore, S. S.
Messrs. A M. & J. FERGUSON, 19 Baillie Street, Colombo, Ceylon.

*Write to Business Manager, Philippine Journal of Science, Manila, P. I., for sample copy and descriptive matter; or to any of the agents listed above.*

EVERY BELL TELEPHONE IS A WESTERN ELECTRIC TELEPHONE

"SAVE TIME AND FREIGHT"

THE

# Western-Electric

COMPANY

"TELEPHONE OUR NEAREST HOUSE"

*FURNISHES EQUIPMENT FOR EVERY ELECTRICAL NEED*

Manufacturers of the celebrated

## "BELL" TELEPHONES

Distributors of Electrical Apparatus
and Materials of all Kinds

AGENTS FOR CHINA
ARNHOLD, KARBERG AND COMPANY, SHANGHAI

AGENTS FOR JAPAN
NIPPON ELECTRIC COMPANY, LTD., TOKYO

*CATALOGUES, BULLETINS AND ESTIMATES FURNISHED ON REQUEST*

# Eastern Asia as a Field for Development

*Offers the Greatest Inducement for Capital*

1910
A BANNER YEAR
1910

*SUBSCRIBE NOW FOR*

## THE FAR EASTERN REVIEW

**And Keep Yourself Informed On What's Doing**

The Leading Engineering, Commercial, and
Financial Magazine in the Far East

*RATES—DOMESTIC $2.50 U. S. Currency a year*
*" FOREIGN $3.00 U. S. Currency a year*
*payable in advance*

**ADDRESS:**
**The Far Eastern Review**
**Manila, Philippine Islands**

Send for Sample Copy
and Become Interested

# HOTEL ST. FRANCIS

## Union Square =:= San Francisco

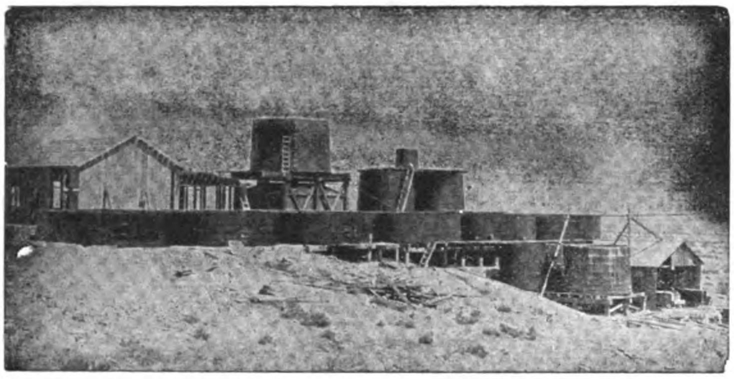
ROOMS WITHOUT BATH
Open Court Outlook
One person, $2.00
Two persons, $3.50
Facing Park
One person, $2.50
Two persons, $4.00
ROOMS WITH BATH
Open Court Outlook
One person, $2.50 and $3.00
Two persons, $4.00 and $5.00
Street Outlook
One person, $3.50, $4.00 and $5.00
Two persons, $5.00 and $6.00

Facing Park
One person, $5.00 and $6.00
Two persons, $6.00, $7.00 and $8.00
SUITES
Sitting Room, Bedroom and Bath
One or two persons, $10.00, $12.00, $15.00, $18,00, $20.00
Servant's Room, $1.50 a day
Servant's Meals, $1.50 a day

IN the City of San Francisco, Union Square is probably the most unique metropolitan center in America. Here, within a radius of two blocks, are all the fashionable shops, the theaters and most of the clubs. There is possibly no city in the world where so many characteristic features are assembled within a limited area and no city in America the local color of which is so fascinating to the traveler. Facing one side of this park is the imposing Hotel St. Francis, the largest hotel investment in Western America, which, upon completion of its annex, will become the largest hotel in the world. The St. Francis is generally conceded to be the farthest advance of science in modern hotel service, and also presents architecturally one of the best examples of an artistic treatment of a utilitarian idea

WHAT DO YOU KNOW ABOUT

**WOOD WATERPIPE AND TANKS?**



AS MANUFACTURED BY THE

**PACIFIC TANK & PIPE CO.**

SUCCEEDING

NATIONAL WOOD PIPE CO. -:- PACIFIC TANK CO.

OUR SPECIALTIES

Wooden Water Pipe For

**Power Plants, Irrigation Systems, City Water Supply**

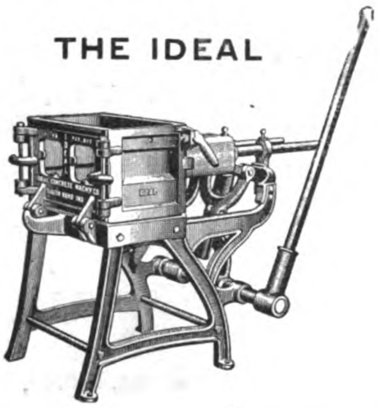
Machine Banded Pipe in Sizes From 2-in to 24-in. diameter. Continuous Stave Pipe In Sizes From 12-in. to 12-ft. Head. Pressures Up To 400-ft.

Send For Our Latest Printed Matter

**318 MARKET ST., SAN FRANCISCO, CAL., U. S. A.**



THE IDEAL



**THE LAMBERT-SPRINGER CO., INC.**

**Fortunes for the Enterprising**

The Hollow Concrete Block Has Come to Stay.
It is Economical, Sanitary and Attractive.
The Ideal Concrete Machine Makes Blocks of any Design—Machines Available at Small Cost—Suited to Construction Work in Tropics.

99—107 Plaza Santa Cruz, Manila

Cable Address: LAMBERTMES

P. O. Box 885
Phone 433

Codes: Western Union
A. B. C. 5th Ed. and Private

# Malthoid Roofing

AND

**P & B PRODUCTS**

**MALTHOID ROOFING** is specified by the best Architects and Engineers and used by the best contractors on all notable buildings in the Far East.

**MALTHOID ROOFING** is past the experimental stage and is a recognized standard of roofing.

When laid according to our specifications it is guaranteed.

For booklet and samples write to your nearest Agent.

FAR EASTERN AGENCIES:

SHANGHAI - Messrs. Samuel, McGregor & Co., Ltd.
TIENTSIN, China - Messrs. William Fobes & Co.
HANKOW, China - Messrs. Westphal, King & Ramsay, Ltd.
HONGKONG and CANTON - Messrs. Arnhold, Karberg & Co.
VLADIVOSTOCK, Kharbin, Kharbarwjsk and Blagovestcheonst - Messrs. Kunst & Albers.
TOKYO, Kobe, Dalny and Seoul - Messrs. Fussiwara & Co.
SINGAPORE and PENANG - Paterson, Simons & Co., Ltd.
BANGKOK, Siam - Messrs. G. Cluzer & Co.
SAIGON - Messr. Allitine & Co,
Java and Dutch East-Indies "LINDETEVES Sourabaya and Samarang

**DISTRIBUTERS FOR THE PHILIPPINES**

**CALIFORNIA MANILA LUMBER COMMERCIAL CO.**

Offices: LACK & DAVIS Bldg. Salesrooms under HOTEL METROPOLE

Admirals
Commanders
Lieut.-Commanders
Ensigns
Cadets

# "FIGHTING BOB"

Divinos
Perfectos
Regalias
Bouquets
Londres

Generals
Colonels
Majors
Captains
Lieutenants

# "JOSE RIZAL"

Perfectos
Sergeants
Corporals
Privates
Londres

**BY MEN WHO KNOW** the value of a good cigar, these two brands are particularly appreciated. They represent the real worth of a cigar in quality and workmanship; the two most essential features of a good smoke. They are manufactured from the most carefully selected leaf grown in the rich fields of Isabela Province, and no expense is spared in the preparation of the filler as well as the wrapper, and the result is a cigar that is as perfect as is possible to manufacture. : : : : : :

**MILD, FRAGRANT SATISFYING** Three important requisites so often found lacking in the usual run of cigars. That's why they sell. Smoke any shape in critical comparison with the best cigar you know of equal money value and prove to your own satisfaction that these cigars are a revelation of excellence in point of aroma as well as shape. Don't be put off when the dealer offer you "something just as good." Remember the money is yours, and that dealers seldom offer substitutes for your benefit. : : : : : : : : : : : : :

FOR SALE BY ALL LEADING HOTELS, CLUBS, BARS AND FIRST CLASS CIGAR STORES

**KIOSKO HABANERO**
*27 ESCOLTA*

Walter E. Olsen & Co.
*MANILA, P. I.*

**KIOSKO RIZAL**
*168-170 ESCOLTA*

# BANCO ESPAÑOL FILIPINO

(ESTABLISHED 1851)

## Depository for the Government of the Philippine Islands

Capital Fully Paid up ........ ₱2,596,000.00
Reserve Fund .................... 408,715.63

## *London Bankers*

***THE NATIONAL BANK OF SCOTLAND, LTD.***

Buys and sells Drafts on Spain, France, Germany, England and other countries.

**TELEGRAPHIC TRANSFERS**

Interest allowed on fixed deposits and current accounts at usual rates.

**GENERAL BANKING BUSINESS**

BRANCH IN ILOILO

PRESIDENT
JOHN S. HORD

VICE-PRESIDENT
GONZALO MARZANO

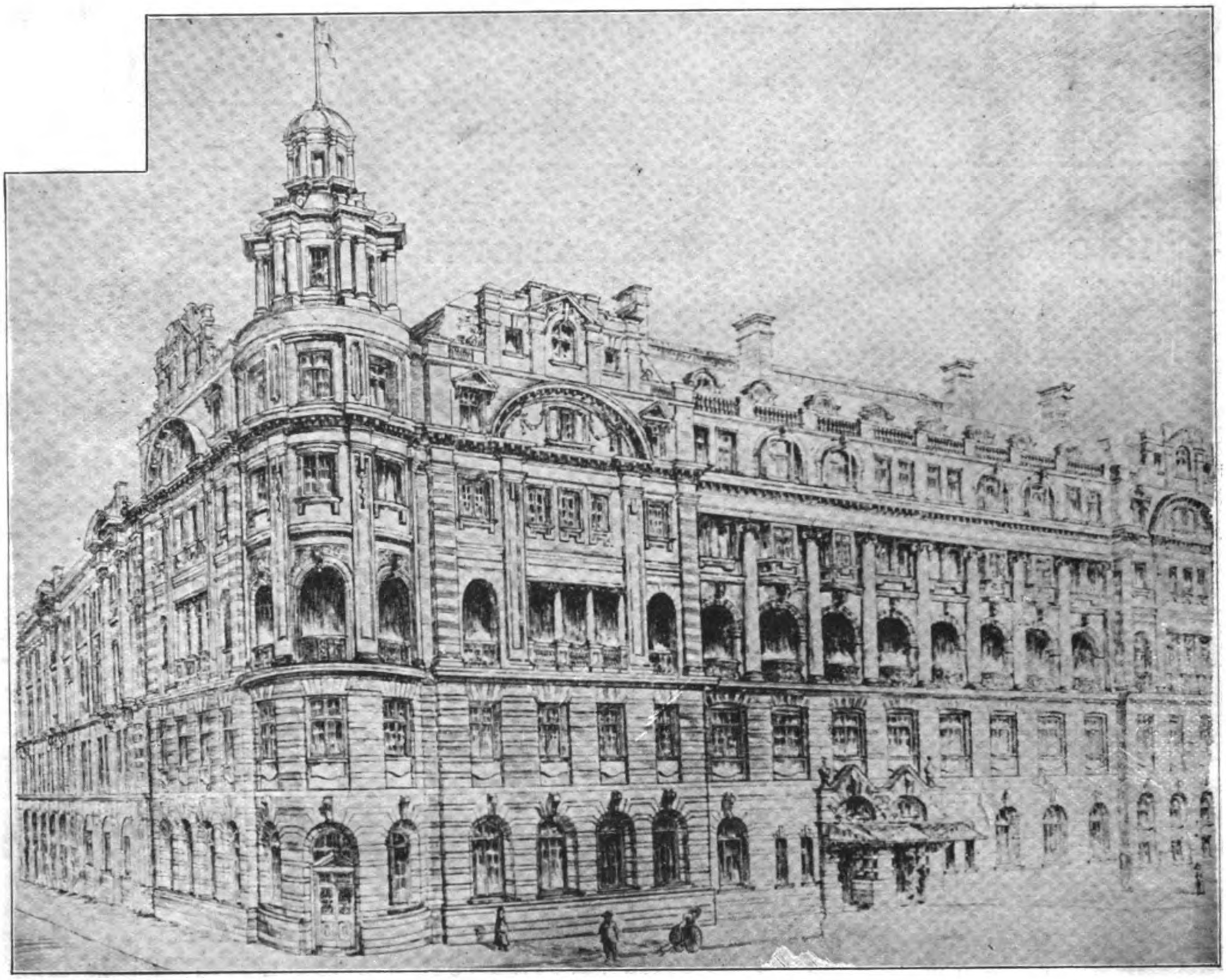
**NO. 10 PLAZA DE CERVANTES**

# ASTOR HOUSE HOTEL CO., LTD.

Cable Address:
"ASTOR" SHANGHAI
Chinese Name: "LEE-ZO"

W. BRAUEN
Manager

Codes Used:
A. B. C. 5th EDITION
WESTERN UNION



*Telephone:*

| | | | |
|---|---|---|---|
| GENERAL OFFICE . . . . . . . . | 200 | MANAGER'S . . . . . . . . . . | 908 |
| SECRETARY'S OFFICE . . . . . | 590 | GUESTS' . . . . . . . . . . . | 904 |

# THE WALDORF-ASTORIA OF THE ORIENT

**Largest, Best and Most Modern Hotel in the Far East. Main Dining Room Seats 500 Guests, and is Electrically Cooled. Two hundred Bedrooms with Hot and Cold Baths Attached to Each Room.**
**Cuisine Unexcelled; Service and Attention Perfect. Summer Garden; American Bar and Billiard Room; Lounge, Smoking and Reading Rooms; Barber and Photographer on the Premises.**

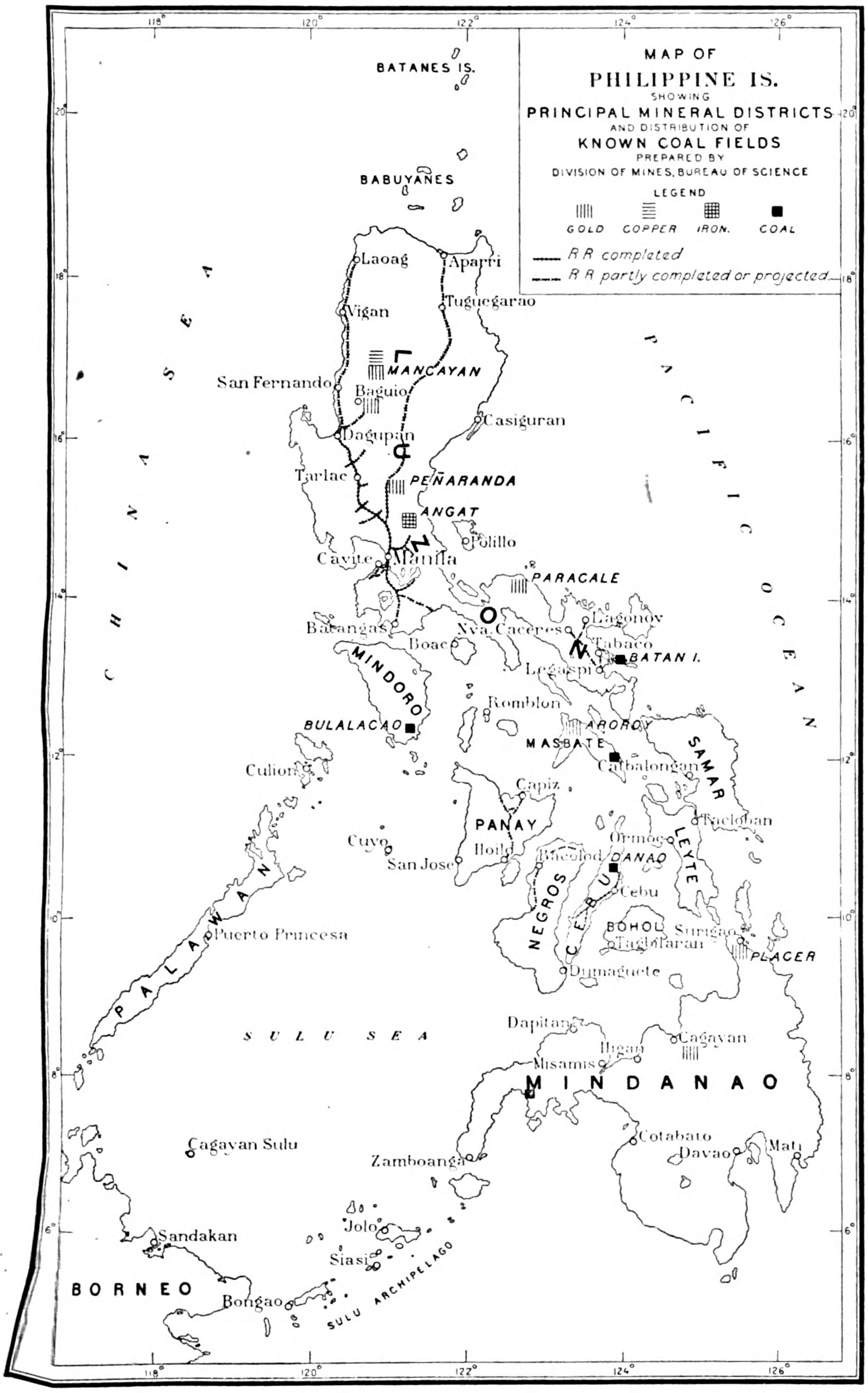
***Rates from $6; Special Monthly Terms***

## SHANGHAI, CHINA

China, Manchuria, Japan, Indo-China, Siam, Straits Settlements, Malay States, Burma, India, Malaysia, and the Philippines

# THE FAR EASTERN REVIEW

VOL. VII.—No. 4. MANILA, SHANGHAI AND YOKOHAMA, SEPTEMBER, 1910. 50 Centavos Philippine Currency 25 Cents. U. S. C.




*Courtesy Bureau of Science*

## Philippine Mineral Resources

## General News and Comment

## Japan in Korea

# ENGINEERING
# COMMERCE FINANCE

# Hongkong and Shanghai Banking Corporation

*DEPOSITORY OF THE GOVERNMENT OF THE PHILIPPINE ISLANDS*

**Capital (Paid in Cash)......... $15,000,000**
**Sterling Reserve Fund...... $15,000,000**
**Silver Reserve Fund............ $16,000,000**
**Reserve Liability of Prop'rs. $15,000,000**

COURT OF DIRECTORS:

G. BALLOCH, Esq.
Chairman.
R. SHEWAN, Esq.
Deputy Chairman.
F. H. ARMSTRONG, Esq.
G. FRIESLAND, Esq.
HON. MR. HENRY KESWICK.
C. R. LENZMANN, Esq.
S. A. LEVY, Esq.
F. LIEB, Esq.
G. H. MEDHURST, Esq.
E. SHELLIM, Esq.
H. A. SIEBS, Esq.
ANDREW FORBES, Esq.

Head Office, Hongkong and Shanghai Banking Corporation, Hongkong

BRANCHES AND AGENCIES:

AMOY
BANGKOK
BATAVIA
BOMBAY
CALCUTTA
CANTON
COLOMBO
FOOCHOW
HAMBURG
HANKOW
HONGKEW (SHANGHAI)
HONG-KONG
IPOH
JOHORE
KOBE
KUALA LUMPUR
LONDON
LYONS
MALACCA
MANILA
NAGASAKI
NEW YORK
PEKING
PENANG
RANGOON
SAIGON
S. FRANCISCO
SHANGHAI
SINGAPORE
SOURABAYA
TIENTSIN
YLOILO
YOKOHAMA

CORRESPONDENTS—In Samar and Leyte: WARNER, BARNES & CO., LTD.
CORRESPONDENTS—In Cebu: KER & CO.
LONDON OFFICE—31 Lombard St.
LONDON BANKERS—London & County Banking Co., Ltd.

*Interest Allowed on Fixed Deposits at Rates which may be Learned on Application. Credit Granted on Approved Securities and Every Description of Banking and Exchange Business Transacted. Drafts Granted on London and the Chief Commercial Places in Europe, India, Australia, America, China and Japan.*

**J. R. M. SMITH, Chief-Manager - - - HONGKONG** — **A. M. REITH, Acting Manager - - - MANILA**

WADE GARDNER, Agent, 50 Wall Street, New York.
W. H. HARRIES, Agent, 401 Montgomery Street, San Francisco

# INTERNATIONAL BANKING CORPORATION

**HEAD OFFICE, 60 WALL STREET, NEW YORK**

**LONDON OFFICE, THREADNEEDLE HOUSE, BISHOPSGATE STREET, WITHIN, E. C.**

CAPITAL PAID UP AND SURPLUS, $6,500,000.00 UNITED STATES CURRENCY

**THOMAS H. HUBBARD, President** — **JAMES S. FEARON, Vice-President**

## BRANCHES

Bombay
Calcutta
Canton
Cebu
Colon
City of Mexico
Empire, C. Z.
Hankow
Kobe
Manila
Panama
Peking
San Francisco
Shanghai
Singapore
Washington, D. C.
Yokohama

AGENCIES AND CORRESPONDENTS IN ALL PRINCIPAL CITIES OF THE WORLD
DESIGNATED DEPOSITORY FOR THE FUNDS OF THE GOVERNMENT OF THE PHILIPPINE ISLANDS
AND FOR THE FUNDS OF THE GOVERNMENT OF THE CANAL ZONE
GENERAL FOREIGN BUSINESS TRANSACTED
COMMERCIAL AND TRAVELLERS' LETTERS OF CREDIT ISSUED
BILLS OF EXCHANGE AND CABLE TRANSFERS BOUGHT & SOLD

# THE YOKOHAMA SPECIE BANK LTD.

**Capital (Paid-up): Yen 24,000,000**  **Reserved Fund: Yen 15,900,000**

**HEAD OFFICE YOKOHAMA**

**PRESIDENT**

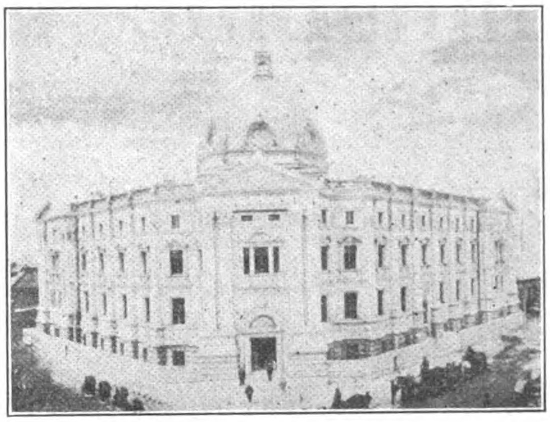
BARON KOREKIYO TAKAHASHI

**DIRECTORS**

NAGATANE SOMA, ESQ.
RIEMON KIMURA, ESQ.
IPPEI WAKAO, ESQ.
MASUNOSUKE ODAGIRI, ESQ.
TCHUNOSUKE KAWASHIMA, ESQ.
KOKICHI SONODA, ESQ.
ROKURO HARA, ESQ.
YUKI YAMAKAWA, ESQ.
VISCOUNT YATARO MISHIMA
HYOKICHI BEKKEY, ESQ.

**GENERAL MANAGER**

YUKI YAMAKAYA, ESQ.



HEAD OFFICE OF THE YOKOHAMA SPECIE BANK, YOKOHAMA

**HEAD OFFICE**

Every description of Banking business transacted.

For particulars, apply to the Manager.

Certified cheques on this Bank will be taken by the Custom House as cash in payment of duty.

Special Safe Deposit's Boxes are provided in the Vault of the Bank.

T. KAWASHIMA, Manager

Yokohama, September, 1909.

**BRANCHES AND AGENCIES:**

| | | | | | |
|---|---|---|---|---|---|
| Tokyo | Hankow | Osaka | Newchwang | Lyons | Ryojun (Port Arthur) |
| Nagasaki | Peking | London | Liaoyang | Honolulu | Fengtien (Mukden) |
| New York | Dairen (Dalny) | San Francisco | Antung-Hsien | Shanghai | Changchun |
| Bombay | Tiehling | Hongkong | Kobe | Tientsin | |

Correspondents at all the chief commercial cities in the world.

**LONDON BANKERS:**

*Parr's Bank, Ltd.*
*Union of London & Smith's Bank, Ltd.*
*London Joint Stock Bank, Ltd*



# RUSSO-CHINESE BANK

**Organized under Imperial Decree 10th December, 1895**

**Capital ................ Rbs. 15,000,000 / Sh.Tls. 2,000,000**
**Capital contributed by Chinese Government.. K. Taels 5,000,000**
**Reserve Fund ......... Roubles 5,612,000**

HEAD OFFICE: ST. PETERSBURG.
LONDON OFFICE: 41 THREADNEEDLE ST. E. C.

BRANCHES AND AGENCIES:

| | | |
|---|---|---|
| *Andijan* | *Khabarovsk* | *Paris* |
| *Armavir* | *Khokand* | *Peking* |
| *Askhabad* | *Kiachta* | *Samarkand* |
| *Barnaoul* | *Kouldja* | *San Francisco* |
| *Batoum* | *Krasnoiarsk* | *Semipalatinsk* |
| *Blagowestchensk* | *Kuanchendzel* | *Shanghai* |
| *Bombay* | *London* | *Stretensk* |
| *Boukhara* | *Marguelan* | *Tatarskala* |
| *Busk* | *Merw* | *Tashkend* |
| *Calcutta* | *Moscow* | *Tchita* |
| *Chefoo* | *Namangan* | *Tchougoutchak* |
| *Colombo* | *Newchwang* | *Tientsin* |
| *Hailar* | *New York* | *Tsitsikar* |
| *Hankow* | *Nicolaievsk o/Amoor* | *Verchneoudinsk* |
| *Harbin* | *Nicolsk-Oussourisk* | *Verny* |
| *Hongkong* | *Niini-Novgorod* | *Vladivostock* |
| *Irkutsk* | *Novo-Nicolaievsk* | *Yakoutsk* |
| *Karachi* | *Novo-Ourguentch* | *Yokohama* |
| *Kashgar* | *Oust-Tcharychsk-Pristane* | |
| *Kerki* | | |

TEL. ADDRESS: SINORUSSE, SHANGHAI.

**Bankers**

**London—Messrs. Glyn, Mills, Currie & Co.**
**Paris—Comptoir National d'Escompte de Paris, Banque de Paris et des Pay Bas**
**Berlin—Messrs. Mendelssohn & Co.**
**Hamburg—Messrs. M. M. Warburg & Co.**
**Vienna—K. K. priv. Oesterr. Credit Anstalt fur Handel & Gewerbs.**
**Amsterdam—Messrs. Lippmann, Rosenthal & Co.**

Interest allowed on Current Accounts in Taels at the rate of 2 per cent. per annum on the daily balance.

Fixed Deposits in Taels and Dollars. Terms on application.

Local Bills discounted. Special facilities for Russian Exchange. Foreign Exchange on the principal cities of the world bought and sold.

**H. AUBERT, L. JEZIERSKI, Managers for China & Japan.**



# Deutsche-Asiatische Bank
# Shanghai

**Berlin, Calcutta, Hankow, Hamburg, Hongkong, Peking, Tientsin, Tsinanfu, Tsintau, Yokohama, Kobe, Singapore.**

**PAID-UP CAPITAL .................... SH. TLS. 7,500,000**

*Founded in 1889 by the following Banks and Bankers:*

Koenigliche Seehandlung (Preussische Staatsbank), Berlin.
Direction der Disconto-Gesellschaft, Berlin.
Deutsche Bank, Berlin.
S. Bleichroder, Berlin.
Berliner Handels-Gesellschaft, Berlin.
Bank fur Handel & Industrie, Berlin.
Robert Warschauer & Co., Berlin.
Mendelssohn & Co., Berlin.
M. A. von Rothschild & Sohne, Frankfurt o[M.
Jacob S. H. Stern, Frankfurt o[M.
Norddeutsche Bank in Hamburg.
Sal. Oppenheim jun. & Co., Cologne.
Bayerische Hypotheken & Wescheel Bank, Munich.

*London Bankers:*

Messrs. N. M. Rothschild & Son.
Union of London & Smith's Bank, Ld.
Deutsche Bank (Berlin), London Agcy.
Direction der Disconto-Gesellschaft.

*New York Agents:*

Schulz & Ruckgaber, 15 William Street

Every Description of Banking and Exchange Business Transacted.
Interest allowed on Current Accounts at 2 per cent per annum on the daily balance. Current accounts kept in taels and dollars.
Interest allowed on Fixed Deposits according to arrangement.
Local Bills discounted.
Every description of Banking and Exchange Business transacted.

R. TIMMERSCHEIDT, *Manager*,
Shanghai.

# A NEW EL DORADO

## The Philippine Islands

*A Virgin Field Awaiting The Investor. Rich in Minerals, Hardwoods, and Agricultural Products*

Gold Production Increased 150% last year
Coal and Oil Fields Being Developed
Vast Deposits of Copper and Iron

## 40,000,000 Acres of the Finest Hardwoods on Earth

**We Raise** Hemp, Copra, Rubber, Tapioca, Sugar, Tobacco, Coffee, Maguey, and all other Products of Tropical Climes

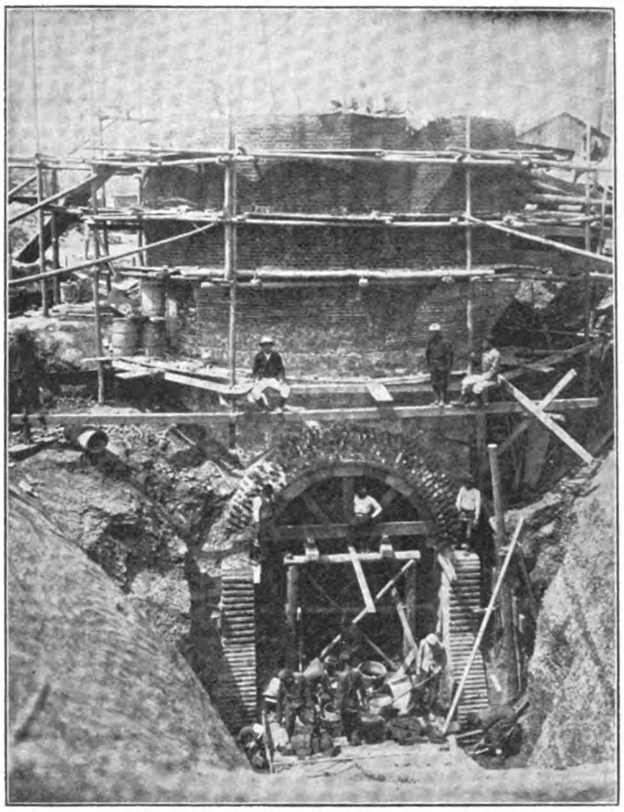
*No Other Land on Earth Offers a More Inviting Field for Capital*

**Write to the Publicity Committee**

THE MANILA MERCHANTS' ASSOCIATION

FOR INFORMATION

# FUSHUN COAL



SINKING SHAFT AT OYAMA PIT, FUSHUN COLLIERY.

## The Best Steaming Coal in the Far East

### Output 3,000 tons per day

Fresh stocks always on hand at Dairen, Newchwang & Tientsin Depots and also at Chefoo, Shanghai, Hongkong, Singapore and Penang.

MINING DEPARTMENT,

## South Manchuria Railway Company

DAIREN

Tel. Add. "Mantetsu," Codes: A.B.C. 5th Ed, A. I & Lieber's

Agents: MITSUI & COMPANY

TELEPHONE 1108.

TELEGRAPHIC ADDRESS: "HARDWARE, SHANGHAI."

HEATING, LIGHTING AND SANITARY ENGINEERS.

GORDON & COMPANY

110 SZECHUEN ROAD, SHANGHAI

STEAM OR HOT WATER HEATING PLANTS

AGENTS FOR THE CARRON COMPANY OF FALKIRK, SCOTLAND

STOVES AND FIRE GRATES

MODERN BATH-ROOM LUXURIES

HOT AND COLD WATER AND SANITARY FITTINGS

OUTPORT WORK A SPECIALTY

SAN MIGUEL BREWERY

MANILA, P. I.

*The Largest and Most Modern* ***Brewery***

IN THE FAR EAST

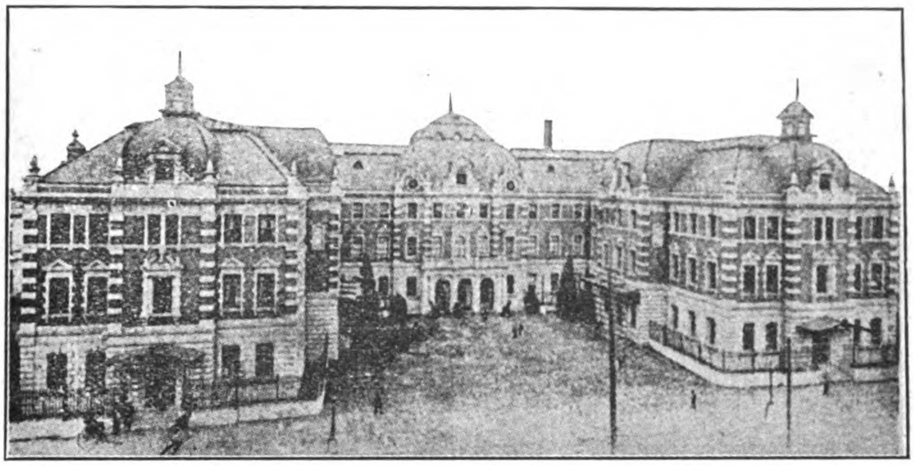
*Get into the Habit of Asking for* ***San Miguel***

IT IS ABSOLUTELY PURE

Containing No Trace of Injurious Chemicals

General Telegraphic Address: "MITSUI"

A B C, 5th edition and A1 Codes used



THE MITSUI BUILDING, TOKIO,
Containing the offices of the Mitsui Family Council, The Mitsui Mining Co., The Mitsui Bank, and The Mitsui Bussan Kaisha

# THE MITSUI BUSSAN KAISHA

## (MITSUI & CO. IN EUROPE AND AMERICA)

## HEAD OFFICE: Surugacho, Tokio, Japan

**President:** HACHIROJIRO MITSUI, Esq.

**Directors:** SENJIRO WATANABE, Esq.; GIICHI IIDA, Esq.; SANKICHI KOMURO, Esq.; KENZO IWAHARA, Esq.; JOTARO YAMAMOTO, Esq.

**Home Branch Offices:** YOKOHAMA, MOJI, KUCHINOTSU, NAGOYA, WAKAMATSU, MIIKE, OSAKA, KARATSU, TAIPEH, KOBE, NAGASAKI.

**Branch Offices in Asia:** TIENTSIN, NEWCHWANG, SHANGHAI, BOMBAY, SINGAPORE.

**London Branch Office:** MITSUI & Co., Lime Street.

**New York Branch Office:** MITSUI & Co., 445 Broome Street.

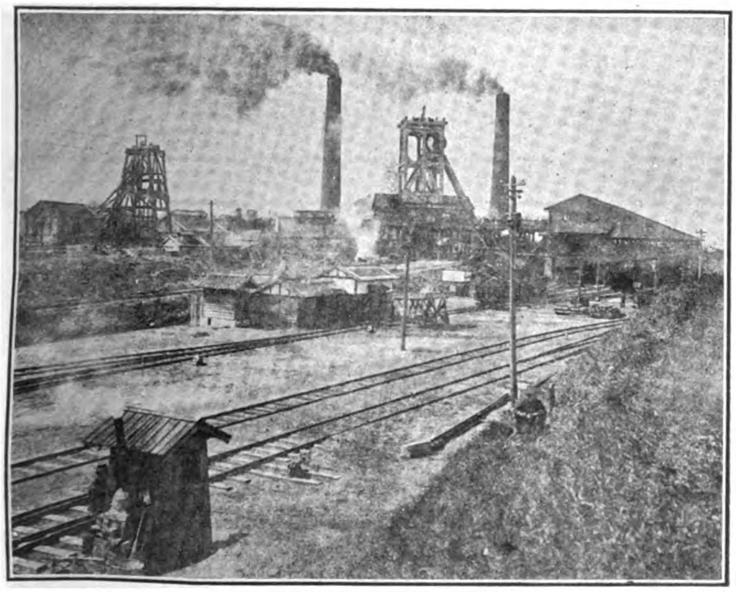
**Agents:** HAMBURG, CANTON, CALCUTTA, BANGKOK, FOOCHOW, HARBIN, SAN FRANCISCO, AMOY, DAIREN, TSINGTAU, SAIGON, SOURABAYA, HANKOW, SEOUL, ANTUNG, SYDNEY, MANILA, CHEFOO, CHEMULPO, RANGOON, VLADIVOSTOCK, ETC.

## IMPORT, EXPORT AND COMMISSION MERCHANTS

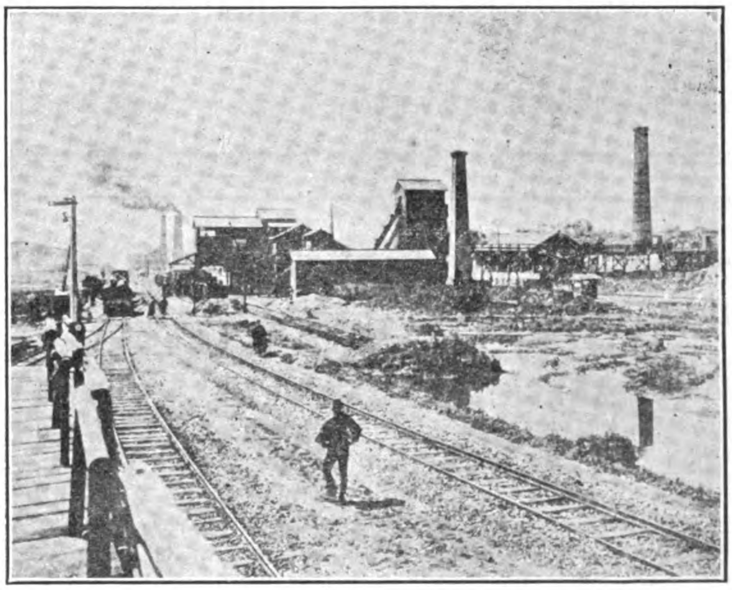
**CONTRACTORS OF COAL** to the Imperial Japanese Navy and Arsenals, the State Railways, Principal Railway Companies, Industrial Works, the United States Army Transport Service, and Home and Foreign Mail and Freight steamers.

**SOLE PROPRIETORS** of the famous Miike, Tagawa, Yamano and Ida Coal Mines, and Sole Agents for Hondo, Kanada, Kishima, Mameda, Mannoura, Ohnoura, Ohtsuji, Sasahara, Tohmiyama, Tsubakuro, Yoshio, Yunokibara, Takae, Fushun and other Coals.

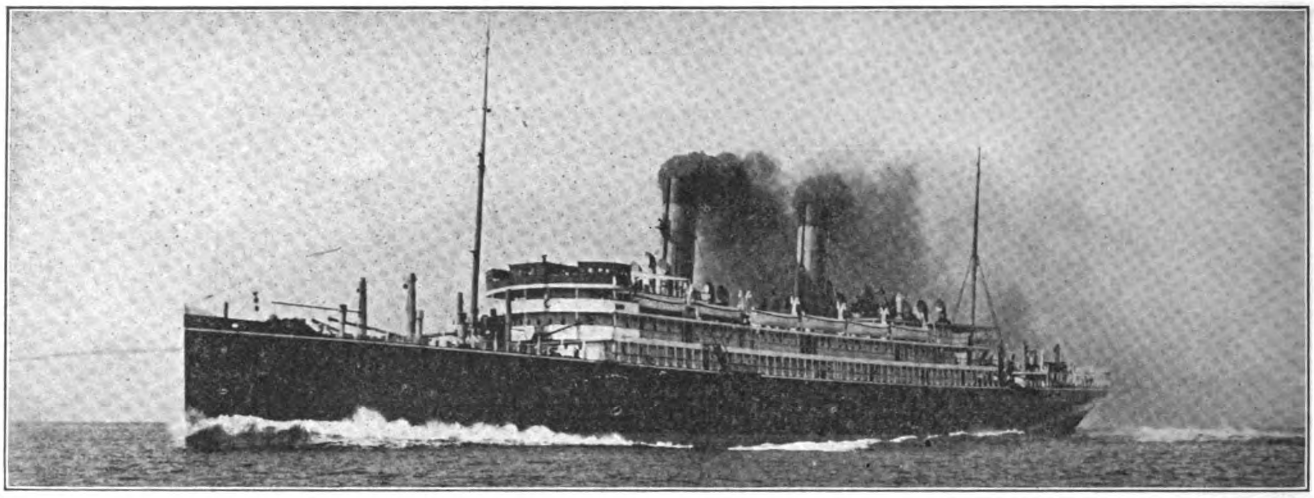
**IMPORTERS AND EXPORTERS** of Cotton, Cotton Yarn, Cotton Piece Goods, Book-binding Cloth, Copper, Silver, Tin, Lead and other Metals, Railway Materials, Acids, Camphor, Flour, Cereals, Manure, Opium, Isinglass, Mushrooms, Sugar, Wax, Vermicelli, Sulphur, Hemp, Beer, Cement, Cigarettes, Matches, Paper, Hides, Leather Belts, Teak and other Timbers, Machinery, etc.



MIYANOHARA PIT, MIIKE MINE



WASHING PLANT, MIIKE MINE



S. S. "CHIYO-MARU"

TRANS-PACIFIC TURBINE DRIVEN PASSENGER STEAMER "CHIYO-MARU" FOR T. K. K.—Built and engined by the Mitsu Bishi Dockyard and Engine Works, Nagasaki, November 1908.—Length (overall), 570 feet 0"; Breadth, moulded, 63 feet 0"; Depth (shelter deck), 46 feet 6"; Gross tonnage, 13,426 tons; Displacement, 18,725 tons; Engines, Parsons' Three Shaft Arrangement; Boilers, Single Ended Scotch Boilers (13); I. H. P., 19 591; Speed, 21 knots. (This photo was taken on her full speed trials the 13th October, 1908.)

# MITSU BISHI DOCKYARDS & ENGINE WORKS, NAGASAKI

| DOCK NO. 1. | | | DOCK NO. 2. | | | DOCK NO. 3. | | |
|---|---|---|---|---|---|---|---|---|
| EXTREME LENGTH | 523 | FT. | EXTREME LENGTH | 371 | FT. | EXTREME LENGTH | 722 | FT. |
| LENGTH ON BLOCKS | 513 | „ | LENGTH ON BLOCKS | 360 | „ | LENGTH ON BLOCKS | 714 | „ |
| WIDTH OF ENTRANCE ON TOP | 88 | „ | WIDTH OF ENTRANCE ON TOP | 66 | „ | WIDTH OF ENTRANCE, TOP | 99½ | „ |
| „ „ „ „ BOTTOM | 77 | „ | „ „ „ „ BOTTOM | 53 | „ | „ „ „ BOTTOM | 88½ | „ |
| WATER ON BLOCKS AT SPRING TIDE | 26½ | „ | WATER ON BLOCKS AT SPRING TIDE | 22 | „ | WATER ON BLOCKS AT SPRING TIDE | 34½ | „ |

THE BEST EQUIPPED SHIPBUILDING PLANT IN THE FAR EAST,
WITH SPECIAL FACILITIES FOR HANDLING THE HEAVIEST CASTINGS AND THE REPAIRING OR BUILDING OF SHIPS, ENGINES AND BOILERS, ALSO ELECTRICAL WORK.

LARGE STOCK OF MATERIAL, AND FITTINGS ALWAYS ON HAND
THE POWERFUL SALVAGE STEAMER "OURA-MARU" (712 TONS, 700 I. H. P.) EQUIPPED WITH NECESSARY PUMPS AND GEAR, IS ALWAYS READY AT SHORT NOTICE.



## EASTERN ENGINEERING COMPANY

ARCHITECTS AND ENGINEERS

Special attention paid to Reinforced Concrete Designing : : : : : :

**Correspondence Solicited**

Rooms 10 and 11 LACK & DAVIS Bldg. Manila, P. I.



## THE WEN MING PRESS

88 HONAN ROAD, SHANGHAI

HIGH GRADE HALF TONES, ZINC ETCHINGS, ETC.
TYPE FOUNDRY, PRINTERS AND LITHOGRAPHERS

ALL WORK DONE
SKILFULLY AND AT MODERATE PRICES.
ORDERS SOLICITED



## HOTELS WHERE TO LIVE AT MANDALAY

UPPER BURMA

SALWEEN HOUSE
AND
TENASSERIM HOUSE

Entire satisfaction guaranteed, as the numerous testimonials from both residents and tourists testify.

TELEGRAPHIC ADDRESS: "SALWEEN"



P. O. Box 194

C. S. NICHOLSON
GENERAL BROKER

9 P. MORAGA. MANILA, P. I.

# THE KAWASAKI DOCKYARD CO., LTD.

## DAIREN

Cable Address: "DOCK," Dairen
Codes: AI and A. B. C. 5th Ed.

**PAID UP CAPITAL: -Y-10,000,000**

THE DAIREN BRANCH has a DRY DOCK and fully equipped MACHINE and TOOL SHOPS, an IRON & BRASS FOUNDRY and other Auxiliary Works. It undertakes general CASTING WORK and the construction and repair of all kinds of VESSELS, BOILERS, ENGINES and other MACHINERY.

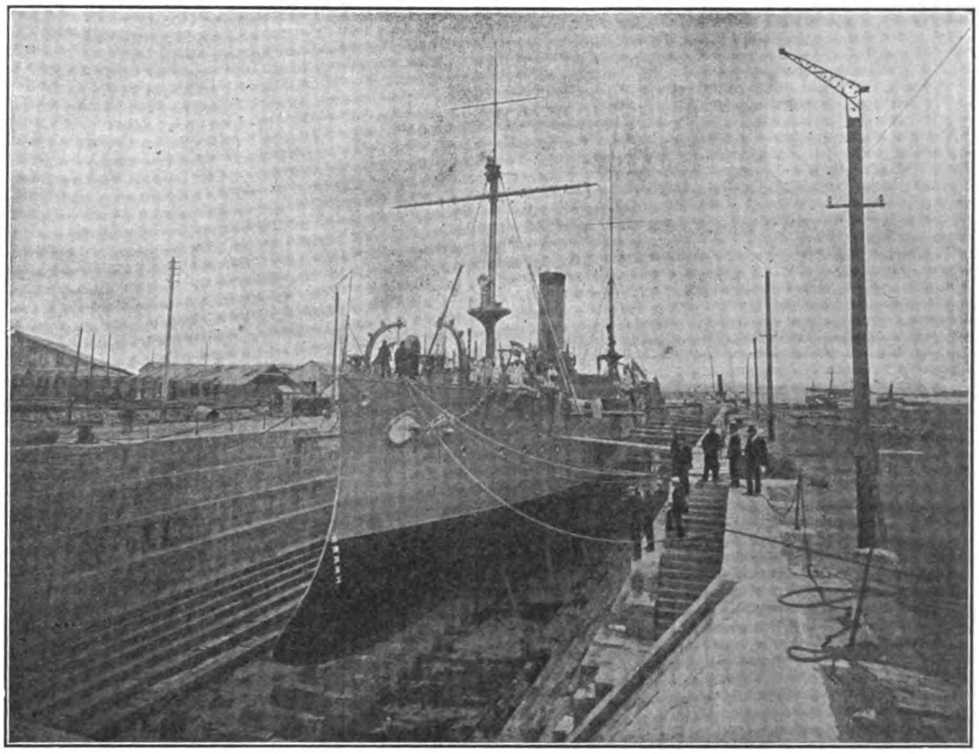
Powerful Salvage & Towing Boats will be supplied at Shortest Notice.

All work guaranteed to be of the highest order and to be of the most up-to-date improvements. All orders immediately attended to.

**DOCK**

| | |
|---|---|
| Length | 380 ft. |
| Width | 50 ft. |
| Depth over Sill | 20 ft. |

**DOCKING CHARGES VERY MODERATE**



GRANITE DRY DOCK, DAIREN

# MANUEL EARNSHAW & CO., LTD.

## MARINE ENGINEERS

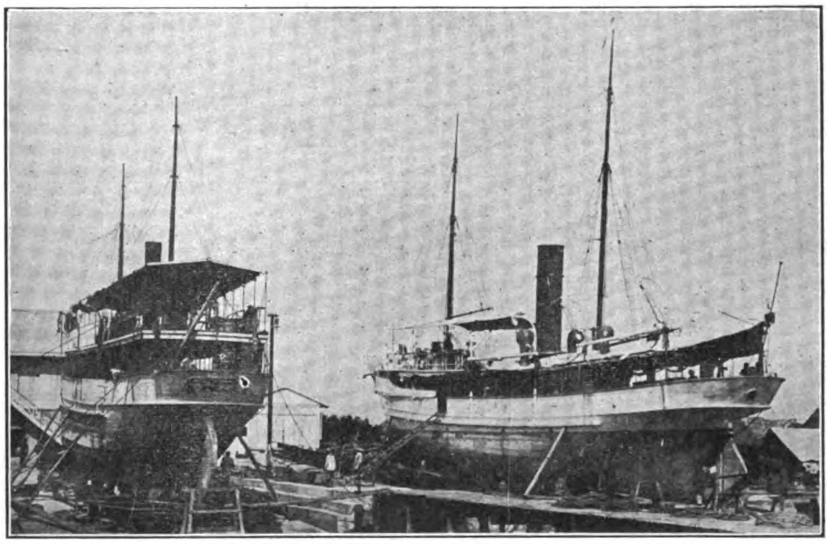
15 BARCELONA ST., MANILA

REPAIRS TO SHIPS,
BOILERS,
ENGINES, ETC.

P. O. BOX NO. 282

TELEPHONE 213

FOUNDRY AT
151 REINA REGENTE



MARINE SLIPWAY

LAUNCH BUILDERS,
FOUNDERS IN IRON,
BRASS, ETC.

Telegraphic Address:
"MEARNSHAW" MANILA

Codes:
A. B. C., 5th Edition
Engineering Telegraph Code and Supplement; Western Union

SLIPWAY AT
CAVITE

# KIANGNAN DOCK AND ENGINEERING WORKS

**Directors:**

**ADMIRAL SAH**
IMPERIAL CHINESE NAVY

**KWONG KWOH WAH**
TAOTAI

**Manager:**

**R. B. MAUCHAN**

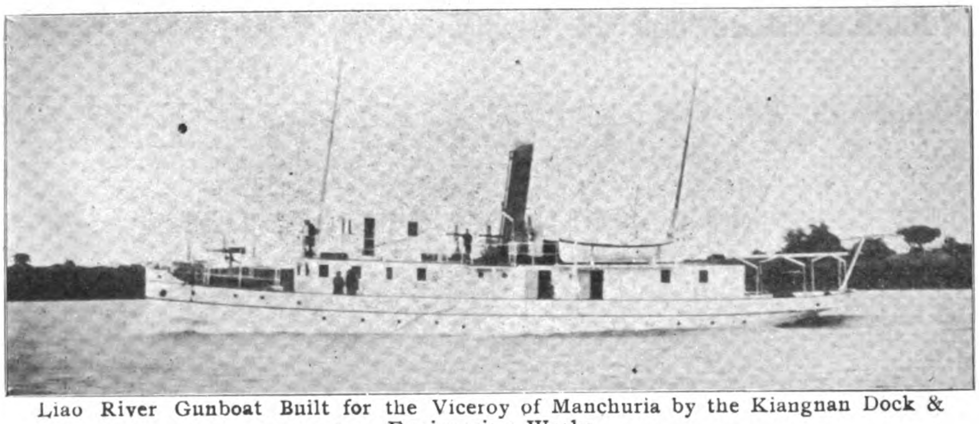
## KIANGNAN DOCK

Length over all, 385′; length on blocks, 375′; water on sill, 19′; dock entrance, top, 70′, bottom, 60′.

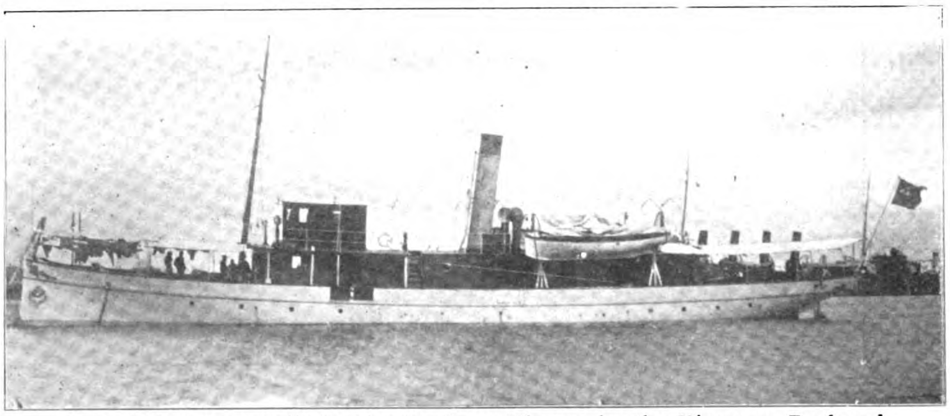
The dock accommodates the largest coasting steamers and is equipped with complete modern facilities for handling work thoroughly and promptly.

The new machine and boiler shops, and the foundry and shipbuilding plant are equal to any this side of Suez.

Yangtsze River Pirate Chaser, Built by the Kiangnan Dock & Engineering Works for the Viceroy of Nanking



Liao River Gunboat Built for the Viceroy of Manchuria by the Kiangnan Dock & Engineering Works



River Patrol Boat Built for the Szechuan Viceroy by the Kiangnan Dock and Engineering Works

**Cable Address:**

**"SINODOCK"**

**Codes:**

**A. B. C. 5TH EDITION,**
**ENGINEERING,**
**LIEBER'S, STANDARD**

**CONTRACTORS FOR REPAIRING, DOCKING AND REFITTING THE VESSELS OF THE IMPERIAL CHINESE NAVY AND THE IMPERIAL MARITIME CUSTOMS**

Patent slipway for small steamers and launches. Complete boat and launch building shops.

# TAIKOO DOCKYARD & ENGINEERING Co. OF HONGKONG LTD.

Engineers, Boilermakers, Repairers

WORKS COVER AN AREA OF 53 ACRES

DRY DOCK 787 FT. × 88 FT. DEPTH 34½ FT.

SLIPWAYS
NO. 1 1030 FT.
NO. 2 993½ FT.
NO. 3 993½ FT.

WORKS & GENERAL OFFICES QUARRY BAY HONGKONG

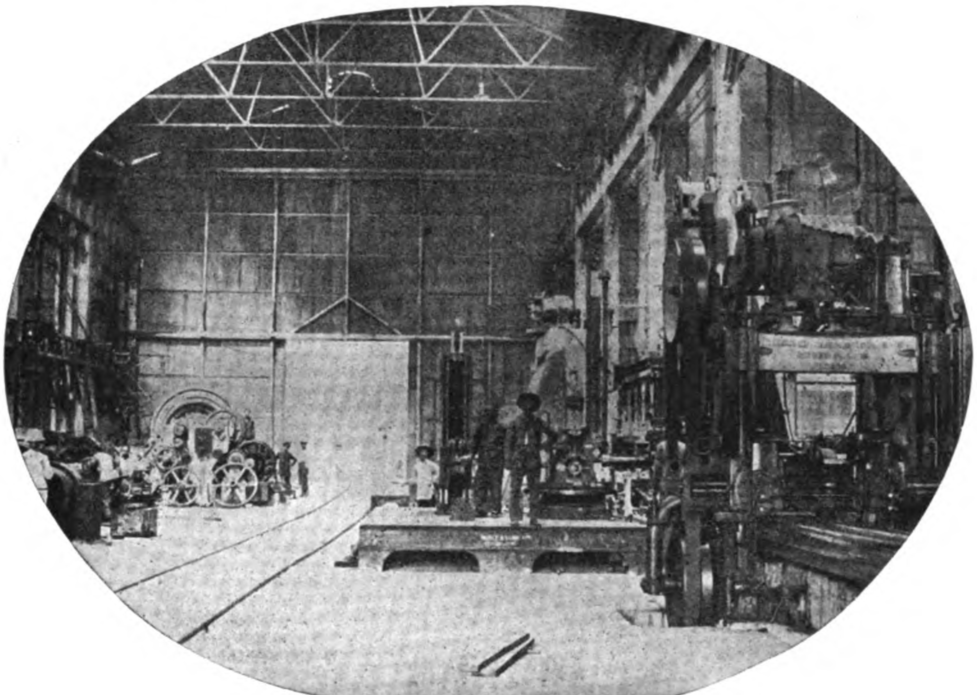
Telegrams: Temseloaf London, Taikoodock Hongkong

Builders OF PASSENGER AND CARGO STEAMERS, TURBINE STEAMERS, STEAM YACHTS, ALL TYPES OF WAR VESSELS STEAM LAUNCHES MOTOR BOATS TUGS AND LIGHTERS

A SECTION OF THE YARD SHEWING TURBINE STEAMSHIP "CHIYO MARU" 13,600 TONS IN DRY-DOCK, TWO COASTING STEAMERS ON SLIPWAYS, AND VESSEL LYING ALONGSIDE THE SEAWALL

THE BUILDING YARD IS LAID OUT WITH FURNACES AND PLANT SUITABLE FOR BUILDING VESSELS UP TO 20,000 TONS

GENERAL MANAGERS
**John Swire & Sons**
8 BILLITER SQUARE, LONDON



VIEW OF PORTION OF MACHINE SHOPS

AGENTS IN HONGKONG, CHINA AND JAPAN
**Butterfield & Swire**

THE POWER FOR THE ESTABLISHMENT is generated by Gas Producers, on the Mond System, supplying 4 Cockerill Gas Engines of 3,000 collective horse power, driving Electrical Generators, and is transmitted throughout the Works by means of Electrical Motors.

AN ELECTRIC DERRICK CRANE capable of lifting weights up to 100 tons, is erected on the Sea Wall, and 14 Electric Overhead Travelling Cranes ranging from 5 tons to 100 tons, are fitted throughout the Workshops.

AGENTS IN MANILA AND PHILIPPINE ISLANDS

**CASTLE BROS.-WOLF & SONS**

THE DOCK PUMPS consist of 2 sets of Centrifugal, Electrically driven, pumps, together capable of emptying the Dock with 35 feet of water on the Cill in 2¾ hours.

THE MACHINERY in the Engine Works is laid out for dealing with the heaviest classes of Engines.

THE SLIPWAY CARRIAGES are of the latest pattern by Morton of Leith, and the Winding Gear consists of large electrically driven winches operating massive wire cables.

TENDERS SUBMITTED AND ESTIMATES GIVEN FOR BUILDING AND REPAIRING ALL CLASSES OF VESSELS; ALSO FOR EVERY DESCRIPTION OF ENGINE AND BOILER, MECHANICAL, ELECTRICAL AND CONSTRUCTIONAL WORK

# HONGKONG & WHAMPOA DOCK CO., LTD.

## HONGKONG

Telegraphic Address: **Manifesto Hongkong**
Dock Owners, Ship Builders, Marine and Land Engineers, Boiler Makers, Iron and Brass Founders, Forge Masters, Electricians.

All classes of CONSTRUCTIONAL and GENERAL ENGINEERING WORK undertaken, also LOCOMOTIVES, RAILWAY ROLLINGSTOCK and PLANT, BRIDGES, etc.

COAST and RIVER STEAMERS, TUG BOATS and LAUNCHES, SHALLOW DRAFT VESSELS and STERN WHEEL STEAMERS.

AUXILIARY MACHINERY for MARINE and LAND Purposes.

LAND and MARINE BOILERS of all sizes and classes.

GALVANIZING by the Electrical process.

IRON and BRASS CASTINGS of all descriptions.

FORGINGS in IRON and STEEL for SHIPS, ENGINES, and LAND WORK, large and small.

We make a specialty of HIGH SPEED MOTOR BOATS for PASSENGER and CARGO Traffic.

ALL CLASSES of COCKS, VALVES and FITTINGS in IRON and BRASS supplied.

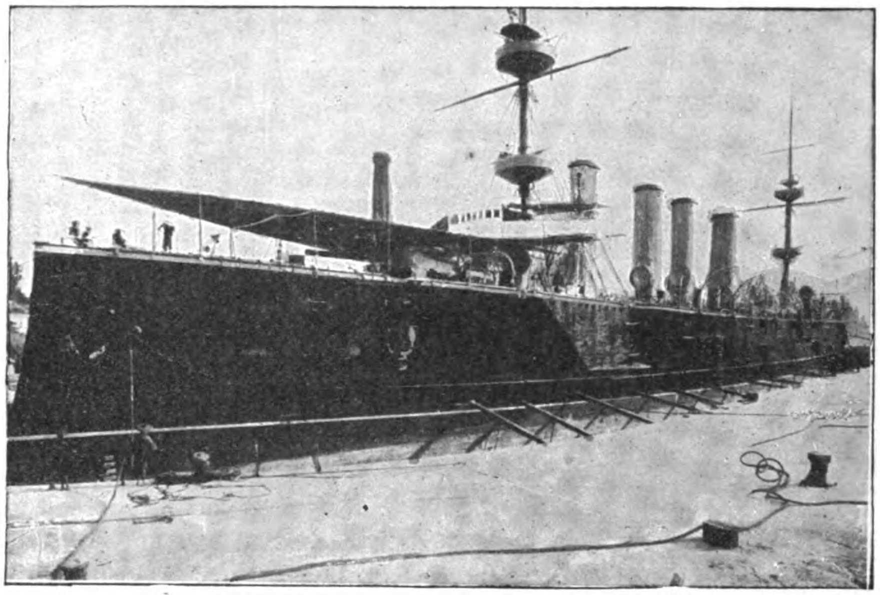
BOLTS, NUTS and RIVETS MANUFACTURED at SHORT NOTICE.

FINISHED NUTS in BRASS and IRON.

A LARGE STOCK of STEEL and IRON PLATES, BARS and ANGLES, always in hand.

The Company possesses SIX GRANITE DOCKS and TWO PATENT SLIPWAYS and these are equipped for EXPEDITIOUS WORK. Our plant is of the most modern type throughout.

Ship Owners and Captains are assured that DOCKING and REPAIRS are carried out PROMPTLY and at MODERATE CHARGES.



H. M. S POWERFUL IN NO. 1 DOCK, KOWLOON.

The Dimensions of Docks and Slips are as follows:—

| *Name of Dock or Slip* | *Length on Keel Blocks* | *Entrance Breadth* | *Depth Over Sill at Ordinary Spring Tides* | *Rise of Tide* | |
|---|---|---|---|---|---|
| | | | | *Springs* | *Neaps* |
| **KOWLOON** | *Feet* | *Feet* | *Feet* | *Feet* | *Feet* |
| No. 1 Dock, Kowloon | 700 | 86 ft. top / 70 ft. bottom | 30′ | 7′ 6″ | 3 |
| No. 2 Dock, Kowloon | 371 | 74′ | 18′ 6″ | 7′ 6″ | — |
| No. 3 Dock, Kowloon | 264 | 49′ 3″ | 14′ | 7′ 6″ | — |
| Patent Slip, No. 1, Kowloon | 240 | 60′ | 14′ | 7′ 6″ | — |
| Patent Slip, No. 2, Kowloon | 220 | 60′ | 12′ | 7′ 6″ | — |
| **TAI-KOK-TSUI** | | | | | |
| Cosmopolitan Dock | 466 | 85′ 6″ | 20′ | 7′ 6′ | — |
| **ABERDEEN** | | | | | |
| Hope Dock | 430 | 84′ | 23′ | 7′ 6″ | — |
| Lamont Dock | 333 | 64′ | 16′ | 7′ 6″ | — |

Please Address Enquiries to the Chief Manager, R. M. DYER, B. Sc., M. I. N. A., Kowloon Dock, Hongkong

Telephone No. 13 K. Head Office, Kowloon.

Town Office, Queen's Buildings Telephone No. 20, Hongkong

## FINDLAY & CO.

### AGENTS, MANILA, P. I.



# W. F. STEVENSON & CO., LTD.

ILOILO MANILA CEBU

MERCHANTS

STEAMSHIP AGENCIES

BOSTON STEAMSHIP COMPANY—BOSTON TOW BOAT COMPANY—"BEN" LINE OF STEAMERS—"INDRA" LINE OF STEAMERS—NORTHERN PACIFIC STEAMSHIP COMPANY—PENINSULAR AND ORIENTAL STEAM NAVIGATION CO. - - - - - - - -

INSURANCE AGENCIES

LIFE, STANDARD LIFE ASSURANCE CO.—MARINE, MARINE INSURANCE CO., LTD.—STANDARD MARINE INSURANCE CO., LTD.—BRITISH AMERICA ASSURANCE CO.—FIRE, NORWICH UNION FIRE INSURANCE SOCIETY—SCOTTISH UNION AND NATIONAL INSURANCE CO.—NATIONAL ASSURANCE COMPANY OF IRELAND—BRITISH AMERICA ASSURANCE CO.—NEW ZEALAND INSURANCE CO. - -

4 MUELLE DEL REY, MANILA, P. I.



# Johnson-Pickett Rope Co.

PURE MANILA ROPE

MADE WITH LATEST IMPROVED ROPE MACHINERY

Average Breaking Load After Three Tests:

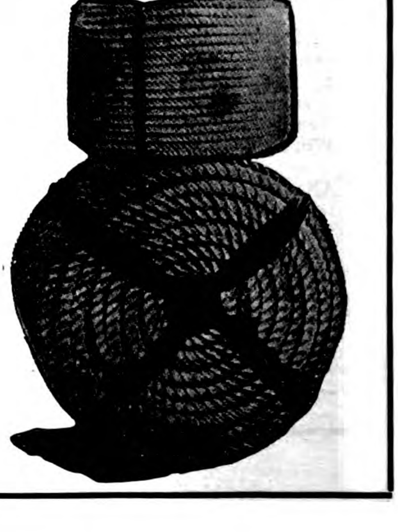
| | | | | |
|---|---|---|---|---|
| 2 | Inch | Rope | Circumference........ | 4,037 Pounds |
| 3½ | " | " | " ........ | 16,670 " |
| 5 | " | " | " ........ | 23,728 " |

Factory and Salesroom.
Cor. Vives and Lara, Murallon,
San Nicolas, Manila, P. I.

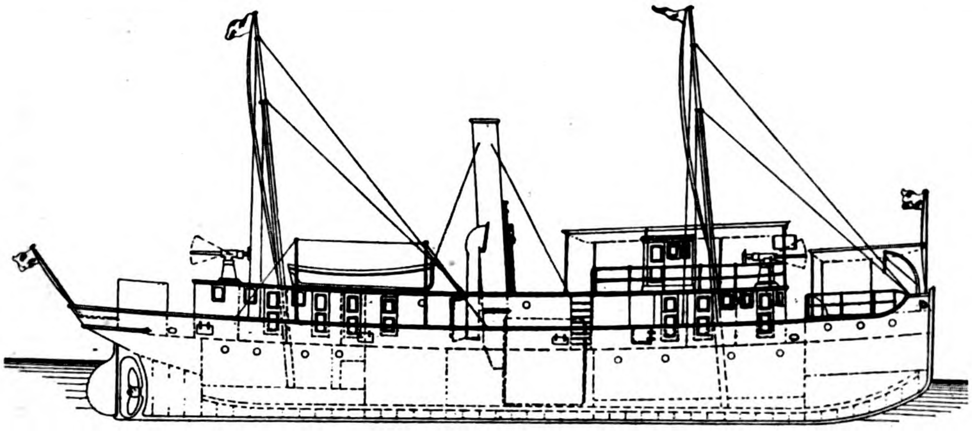
TELEPHONE
1123

Cable Address: SANTAROPE
Code: Western Union, Universal Edition.

CORRESPONDENCE SOLICITED



ENGINEERS, MACHINISTS and FOUNDERS



SHIPBUILDERS, BOILERMAKERS ELECTRICIANS

I. C. M.'S GUNBOAT "KAI-HAI" BUILT BY THE NEW ENGINEERING AND SHIPBUILDING WORKS, LTD. SHANGHAI, FOR SERVICE IN NORTH CHINA: SPEED, 11 KNOTS

COAST AND RIVER STEAMERS, TUGBOATS, LAUNCHES, LIGHTERS, PONTOONS, SHALLOW DRAFT SIDE OR STERN WHEEL STEAMERS. ENQUIRIES SOLICITED. PLANS, SPECIFICATIONS AND ESTIMATES FURNISHED. ALL CLASSES OF ENGINEERING WORK UNDERTAKEN

# THE NEW ENGINEERING AND SHIPBUILDING WORKS, LTD.

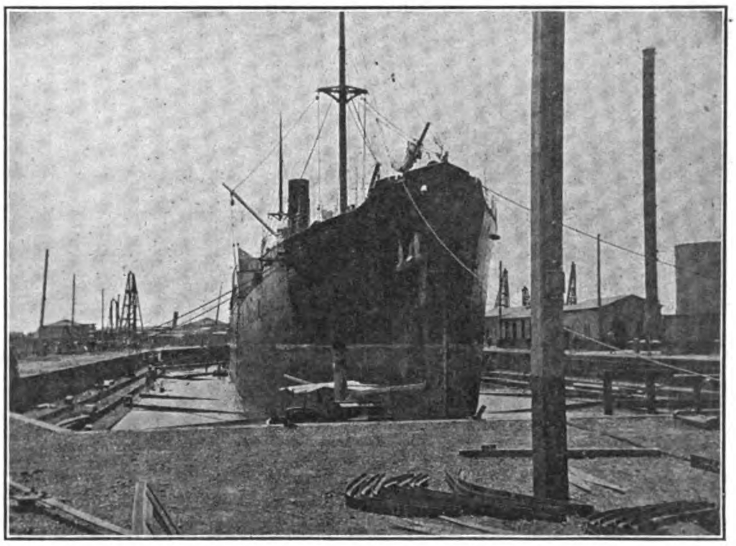
## SHANGHAI

PROPRIETORS OF THE

# YANGTSZEPOO DOCK

THE DOCK, WORKS AND OFFICE ARE LOCATED ON THE SHANGHAI SIDE OF THE RIVER, 15 MINUTES BY ELECTRIC TRAM FROM HEART OF THE CITY

THE WORKS ARE EQUIPPED WITH THE MOST MODERN MACHINERY, CAPABLE OF HANDLING THE LARGEST MARINE ENGINEERING WORK



VIEW OF YANGTSZEPOO DOCK

PARTICULARS OF DOCK
LENGTH ON BLOCKS 455'0"
" OVERALL - 469'0"
WIDTH, ENTRANCE 74'0"
" SILL - - 64'0"
DEPTH ON SILL, (H. W. O. S. TIDES) - - - 21'0"
DEPTH ON 3'0" BLOCKS (H. W. O. S. TIDES) 19'0"
PUMPS CAN EMPTY DOCK WITHOUT VESSEL IN, IN 3½ HOURS.
WORKSHOPS LOCATED AT HEAD OF DOCK

**OFFICE, DOCK & WORKS, 37 YANGTSZEPOO ROAD, SHANGHAI**

TELEGRAPHIC ADDRESS: "SPEEDY." CODE: A.B.C., 5TH EDITION — TELEPHONE 703. — MANILA AGENT, F. L. STRONG

# THE SHANGHAI DOCK AND ENGINEERING CO., LTD.

DOCK OWNERS — ENGINEERS

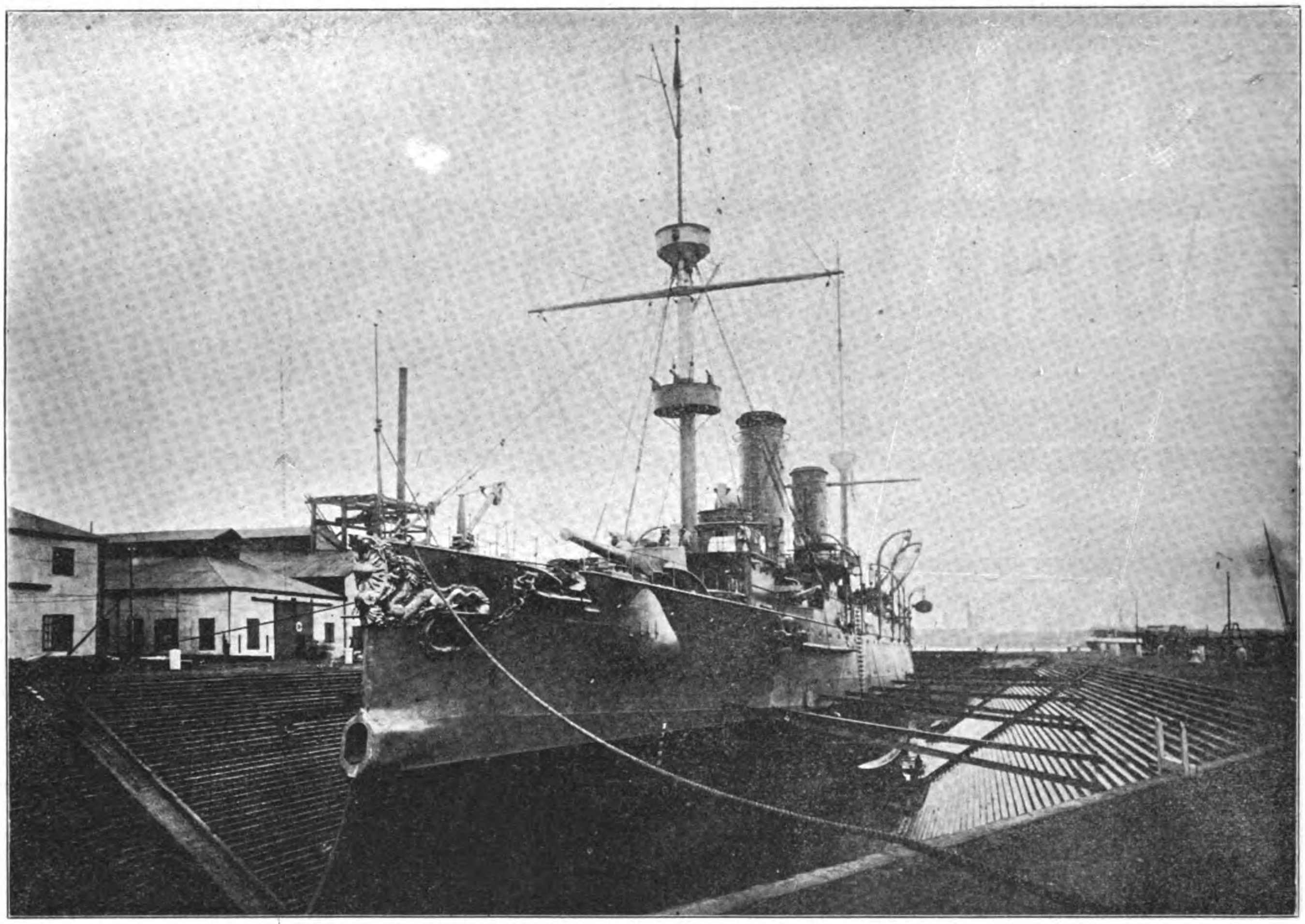
SHANGHAI

CHINA

SHIP BUILDERS — FOUNDERS

Cable Address:
"FARNHAM," SHANGHAI

Codes Used:
A 1., A B C (4th & 5th Editions)
Watkin's, Scott's, Western
Union and Engineering



The HAI-CHI in the "OLD DOCK" of the Shanghai Dock & Engineering Co., Ltd.

The Docks are five in number, ranging in length from 360 feet to 560 feet, and breadth of entrance from 57 feet to 82 feet, with the depth of water on the sill from 16 feet to 24 feet.

The Dock charges are very moderate.

The Water Frontage is about 1¼ miles in length. Wharves and Pontoons are arranged where steamers can moor during repairs; and slips for hauling up small vessels are provided. Sheer legs capable of lifting 65 tons are placed at the various Docks.

The extensive Shipbuilding yards and workshops are provided with the latest improvements in tools, traveling cranes of 70 tons' capacity, hydraulic and pneumatic machinery.

Lit up by Electric light with railway lines through workshops and yards.

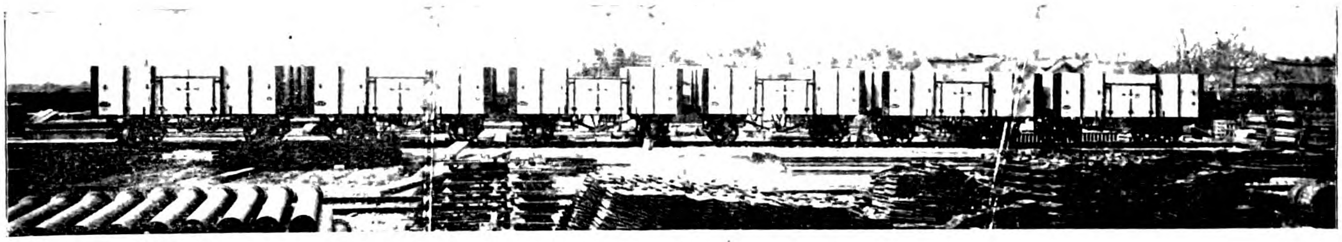
Powerful salvage appliances can be supplied at short notice. Enquiries immediately attended to.

Estimates given for all classes of work; Coast Steamers, Side and Stern-Wheelers, Tugboats, Launches, Steam Barges, Dredgers, Floating Cranes, and Lighters a speciality.

Every description of repairs and renewal work undertaken and expeditiously executed.

Land and Marine Engines and Boilers, Centrifugal, Mining, and other pumping machinery always in stock or in progress, also power driven Machine Tools, Engineer's Hand Tools, Steam, Gas, Oil, and Electric machinery and engineering accessories generally.

## CORRESPONDENCE INVITED



TYPE OF HIGH SIDE GOODS WAGONS

CONSTRUCTED BY THE VULCAN IRONWORKS, LTD., FOR THE NANKING CITY RAILWAY

# Railway Coaches and Goods Wagons Assembled Structural Steel Work Erected

ESTIMATES given for every description of Engineering and Constructional work and repairs, including supplying and installing of HOT WATER and STEAM HEATING in all its branches and HOT and COLD WATER SUPPLIES.

THE WORKS are electrically driven, and are equipped throughout with up-to-date machinery and labour saving devices, including an HYDRAULIC PLANT, and appliances to undertake constructing or repairing SHIPS, ENGINES, BOILERS, etc.

EXPERIENCED EUROPEAN STAFF SUPERVISES ALL BRANCHES OF WORK

# VULCAN IRONWORKS, Ltd.

ENGINEERS, SHIPBUILDERS, BOILERMAKERS, ELECTRICIANS, IRON AND BRASS FOUNDERS, ETC.

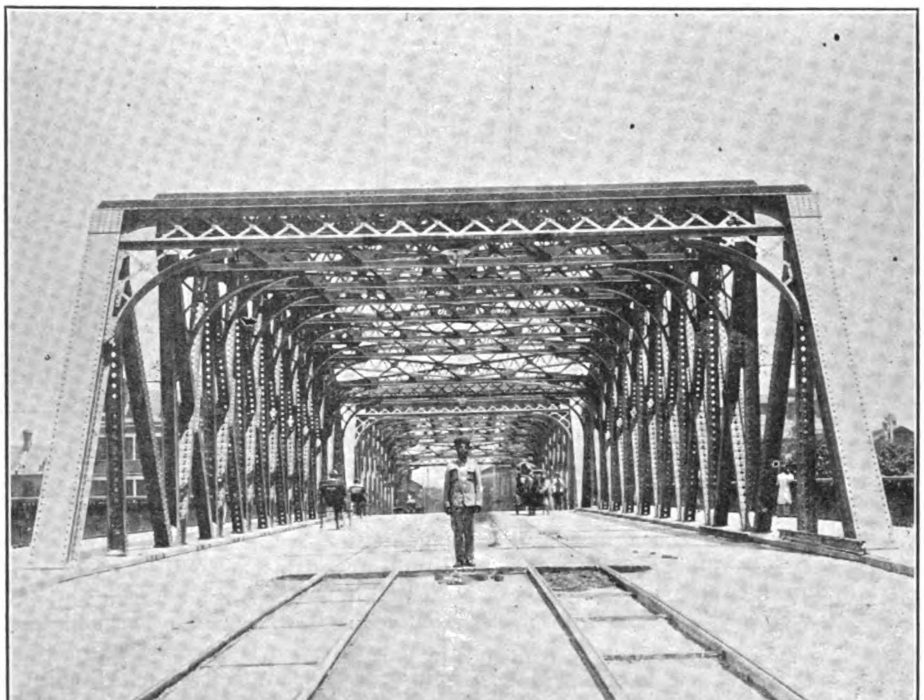
Office and Works: 45 YANGTSZEPOO ROAD, SHANGHAI

# PATTON'S IRONHIDE PAINT

A PROTECTIVE COATING FOR IRON AND STEEL

PREVENTS CORROSION CAUSED BY DAMPNESS, SULPHUROUS FUMES AND OTHER DELETERIOUS GASES

**Tough
Elastic
Durable**



THE RUSTLESS COATING FOR

STRUCTURAL IRON WORK, STEEL CARS, TRAIN SHEDS, IRON PARTS OF ROLLING STOCK

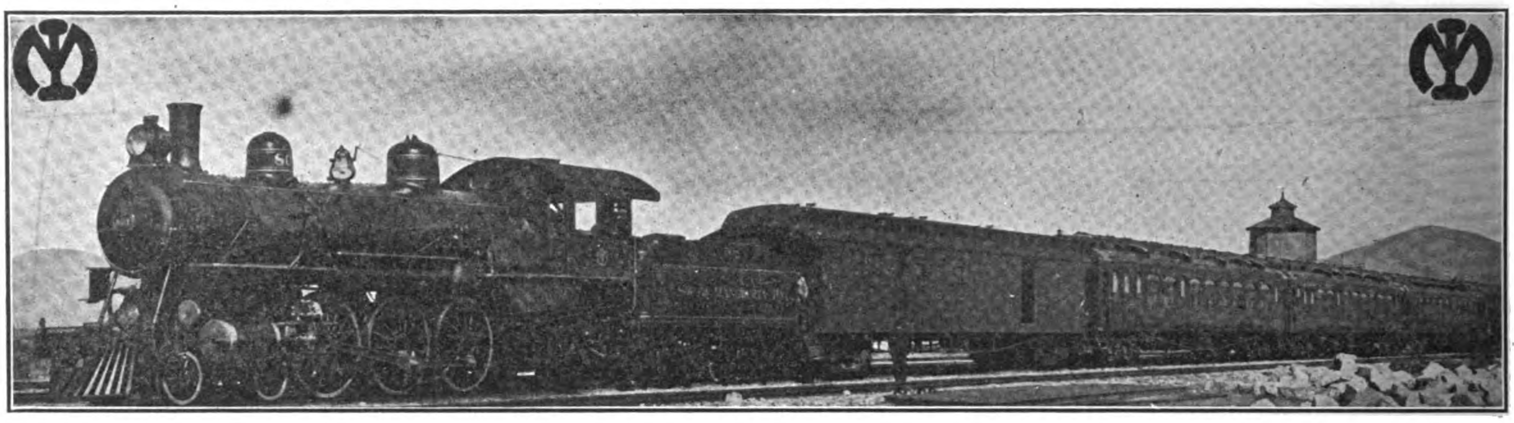
BRAKE RODS, TRUSS RODS, TRUCKS, AND BRIDGES, SUBJECTED TO SEVERE VIBRATORY STRAINS, SHOULD ALWAYS BE COATED WITH PATTON'S

"IRONHIDE"

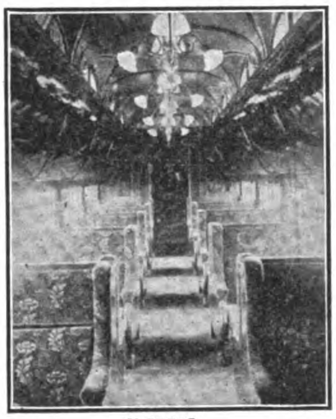
## FEARON, DANIEL & CO.

Sole Agents for CHINA, HONGKONG, JAPAN AND PHILIPPINES

SHANGHAI, NO. 9 FOOCHOW ROAD



# South Manchuria Railway



SLEEPER

**SHORTEST AND QUICKEST ROUTE BETWEEN THE FAR EAST AND EUROPE, VIA DAIREN**

INTERIOR PULLMAN DAY COACH

**Main Railway Line** THRICE WEEKLY EXPRESS TRAIN SERVICE, composed of excellently equipped Sleeping, Dining and 1st class Cars, is operated between Dairen and Changchun in connection with the Trans-Siberian Express Trains and with Shanghai Mail Steamers.

## BRANCH RAILWAY LINES

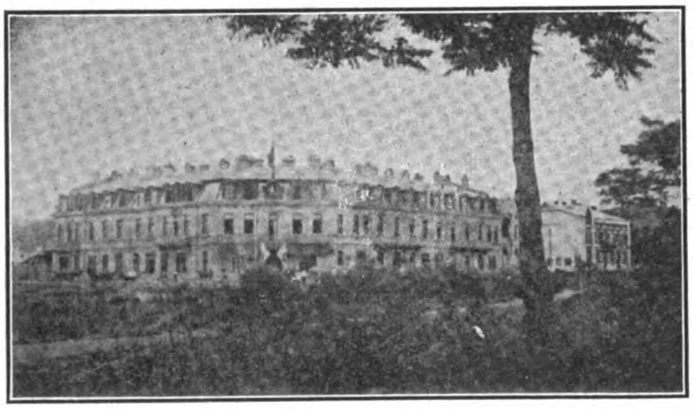
RYOJUN LINE—For Ryojun (Port Arthur), 1½ hours from Dairen.

YINGKOU LINE—For Yingkou (Newchwang), 40 minutes from Tashihchiao Junction.

FUSHUN LINE—For the famous Fushun Colliery from Suchiatun Junction.

ANTUNG LINE—A light railway from Mukden to Antung connecting with the Korean Railway.

DAIREN-SHANGHAI DIRECT STEAMER SERVICE—is maintained TWICE-WEEKLY by the S.S. "Kobe Maru" and "Saikio Maru" (2,877 tons each).



SOUTH MANCHURIA RAILWAY, YAMATO HOTEL, PORT ARTHUR

YAMATO HOTEL, DALNY

**TICKET AGENTS** The International Sleeping Car & Express Trains Co. and Messrs. Thos. Cook & Son.

**RAILWAY HOTELS** YAMATO HOTEL (Tel. Add.: "Yamato") At Dairen, Port-Arthur and Changchun, and shortly at Mukden, all under the Company's management.

**THROUGH PASSENGER TICKETS**—In conjunction with the Chinese Eastern Railway, Imperial Government Railways of Japan, the Imperial Railways of North China, the Osaka Shosen Kaisha and the Company's own steamers. Through Passenger Tickets are issued between the Company's principal stations and the undermentioned points:—

**NORTH MANCHURIA & SIBERIA:** Ashiho, Habarovsk, Hailar, Harbin, Manchouli, Nicolsk-Ussurisk, Pogranitchnaia, Shuangchengpu, Tsitsihar, Taolaichao, Vladivostock, Yaomen.

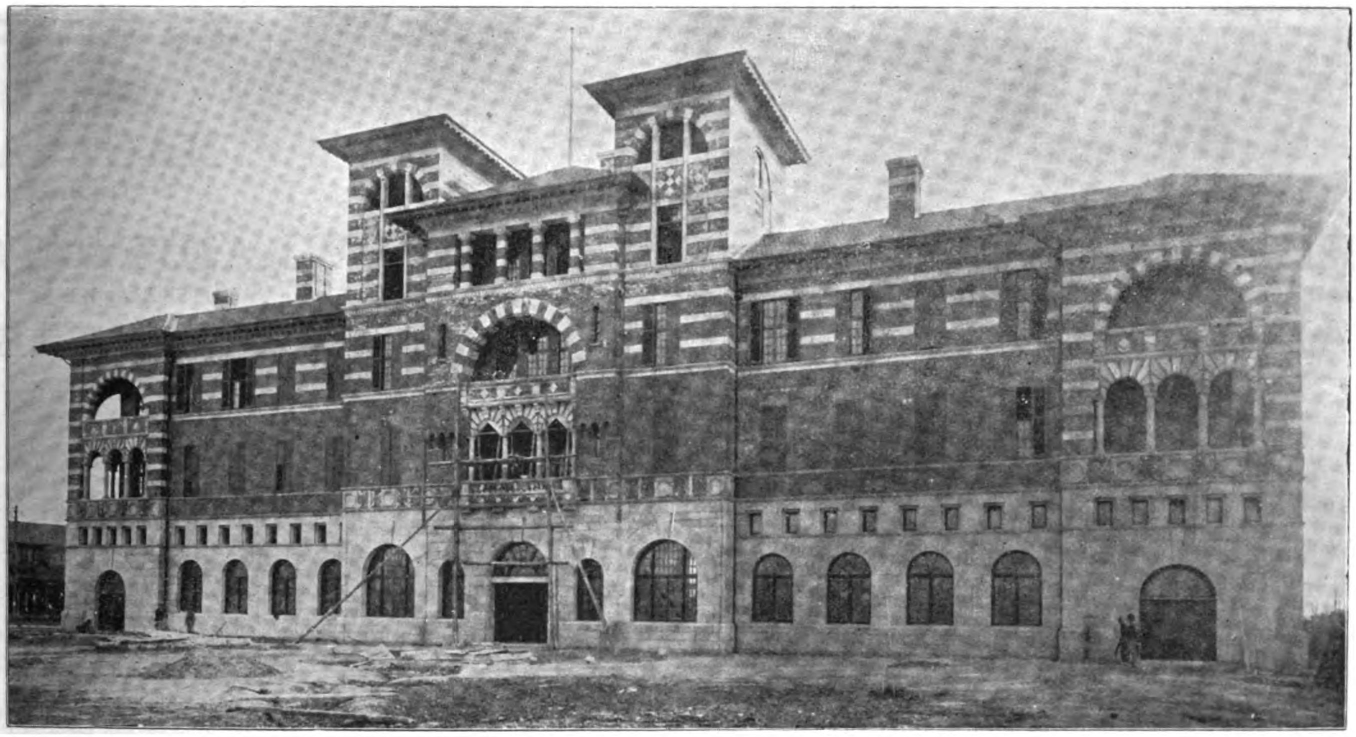
**CHINA:** Hsinminfu, Peking, Shanghai, Shanhaikuan, Tientsin.

**JAPAN:** Hakata, Hiroshima, Kioto, Kobe, Kumamoto, Moji, Nagasaki, Nagoya, Osaka, Shimonoseki, Tokyo, &c.

## SOUTH MANCHURIA RAILWAY COMPANY, Dairen

**Tel. Add.: MANTETSU -:- Codes: A. B. C., 5th Ed., A1 and Lieber's**

# *The Line of a Hundred Pagodas*



NEW STATION AND ADMINISTRATION BUILDING AT SHANGHAI

PASSENGERS TO THE YANGTSZE RIVER PORTS SHOULD TAKE THE STEAMER AT NANKING, THUS ENJOYING A TRIP THROUGH THE INTERESTING LAND OF PAGODAS AND "THE GARDEN OF CHINA." NANKING, THE SOUTHERN CAPITAL OF CHINA, WITH ITS MANY INTERESTING SIGHTS, THE CELEBRATED MING TOMBS, AND OTHER ATTRACTIONS, CAN BE SEEN IN TWO DAYS' TRIP FROM SHANGHAI. THE FIRST AND SECOND CLASS COACHES OF THE S-N. RAILWAY COMPARE WITH THE BEST IN EUROPE OR AMERICA FOR COMFORT AND SERVICE. TWO EXPRESS TRAINS DAILY.

# CHINESE EASTERN RAILWAY

## STEAMER & EXPRESS SERVICE

## FAR EAST — EUROPE

**TICKET OFFICES**

**SHANGHAI**
8 KIUKIANG ROAD

**NAGASAKI**
THE BUND

**PEKING**
AMBASSADOR'S STREET

**VLADIVOSTOK**
ALEUTSKAIA, No. 37

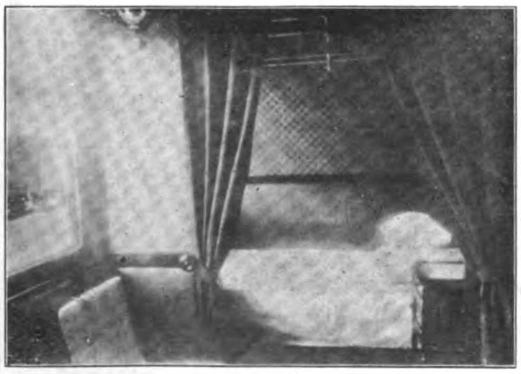
**HEAD OFFICES AT HARBIN**

### STEAMER AND TRAIN TIME TABE

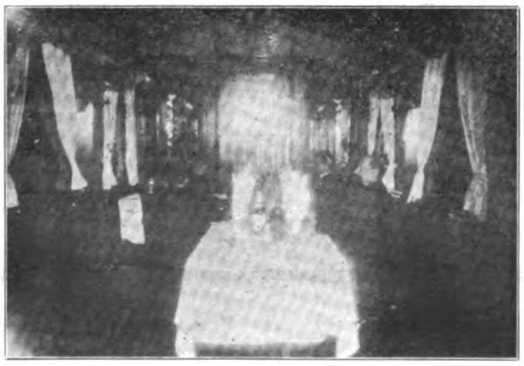
| STEAMERS | | Free Time Between the Arrival of Steamer and Departure of Train | TRAINS | | | |
|---|---|---|---|---|---|---|
| DEPARTURE | ARRIVAL AT VLADIVOSTOCK | | DEPARTURE FROM VLADIVOSTOK | ARRIVE IRKUTSK | ARRIVE MOSCOW | ST. PETERSBURG |
| | | | (Harbin Time) | (St. Petersburg Time) | | |
| SHANGHAI Saturday*.......... | Thursday, 9.00 .................... | 31.25 hours | Friday, 4.25...... | Tuesday, 1.29... | ........................ | Monday, 6.00 |
| NAGASAKI Monday, 6.00...... | do do .................... | 31.25 ” | Friday, 4.25...... | Tuesday, 1.29... | ........................ | Monday, 6.00 |
| TSURUGA Saturday / Thursday 5.00 | Monday / Saturday 11.00 ............... | 29.25 ” | Tuesday / Sunday 4.25.. | Saturday, 1.29.. / Thursday, 1.29.. | Friday, 7.06...... / Wed., 7.05...... | .................. / .................. |

The hours of departure depend upon the tide. The express trains of the Chinese Eastern Ry. Co. leave Vladivostock on Fridays and Sundays. The express leaving on Fridays connect at Irkutsk with the express State trains running between Irkutsk and St. Petersburg via Vologda-Viatka. The Chinese Ry. Co.'s expresses consist of luggage car, restaurant car, two second and one first class cars, and are provided with a 1st class kitchen and servants speaking English and French.

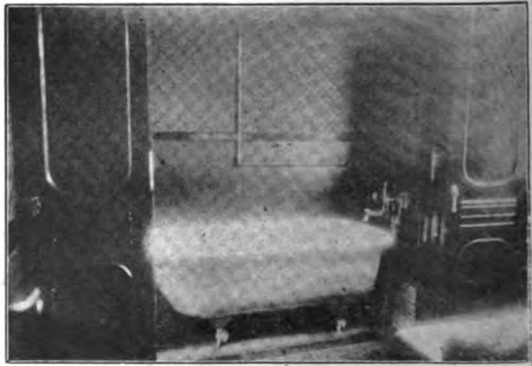
### THE COMFORTS OF THE CHINESE EASTERN EXPRESS



SLEEPING ROOM



DINING CAR



BATH ROOM

# SIEMENS SCHUCKERT

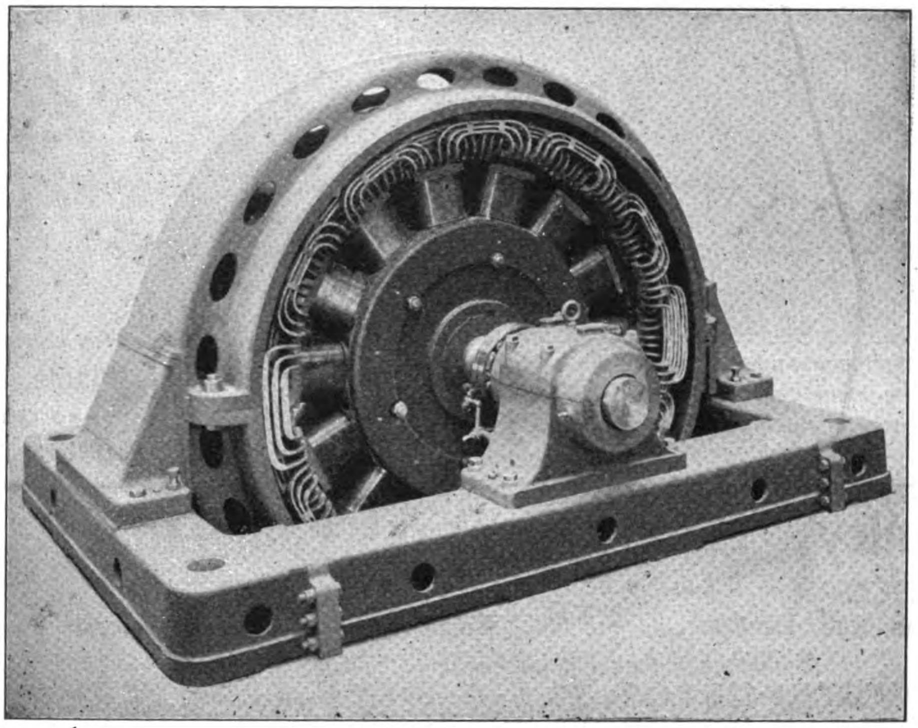
## MANUFACTURERS OF EVERYTHING ELECTRICAL

CHINA BRANCH HEAD OFFICE: AT SHANGHAI, SZECHUEN ROAD AND JINKEE ROAD CORNER
SUB-AGENCIES: AT TSINGTAO, HANKOW AND TIENTSIN, WITH A LARGE STAFF OF EFFICIENT ELECTRICAL ENGINEERS

Representing the Siemens Companies:

SIEMENS BROTHERS DYNAMO WORKS - - - London-Stafford
SIEMENS BROTHERS & COMPANY - - - - London-Woolwich
SIEMENS & HALSKE A. G. - - - - - - Berlin-Nonnendamm
GEBRUEDER SIEMENS & CO. - - - - - - Berlin-Lichtenberg
SIEMENS-SCHUCKERTWERKE G. m. b. H. - - Berlin-Nuernberg

Cable Address: FOR SHANGHAI, HANKOW & TIENTSIN, "MOTOR;" FOR TSINGTAU, "SIEMENS"
Codes used: PRIVATE, LIEBER'S AND A-1.



DIRECT COUPLED THREE-PHASE ALTERNATING CURRENT

## DYNAMO

**as installed at Mukden, Kirin, Soochow, Luanchow Mines and Tsingtau by Siemens-Schuckert-China-Branch**

*Plans and Estimates given for all descriptions of Electrical Machinery and Apparatus on short notice*

COMPLETE EQUIPMENTS FOR

*Lighting, Power and Traction Plants—Electrical Pumping, Winding and Hauling Plants—Builders of the "Zoelly" Steam Turbine—Manufacturers of Telephone, Telegraphic and Roentgen Ray Apparatus, Watermeters, Ozone Machines, Cables, Glow-lamps, Batteries, Electric and Gasoline Motor-Cars.*

**WIRELESS TELEGRAPHY INSTALLATIONS, SYSTEM TELEFUNKEN**

19 SZECHUEN RD
SHANGHAI
Telephone, 1944
Telegrams:
"GOLDFLOWER"
Codes: A. B. C.,
5th Ed. Lieber's
and Engineering

# DAVID W. BELL

## SHANGHAI CHINA

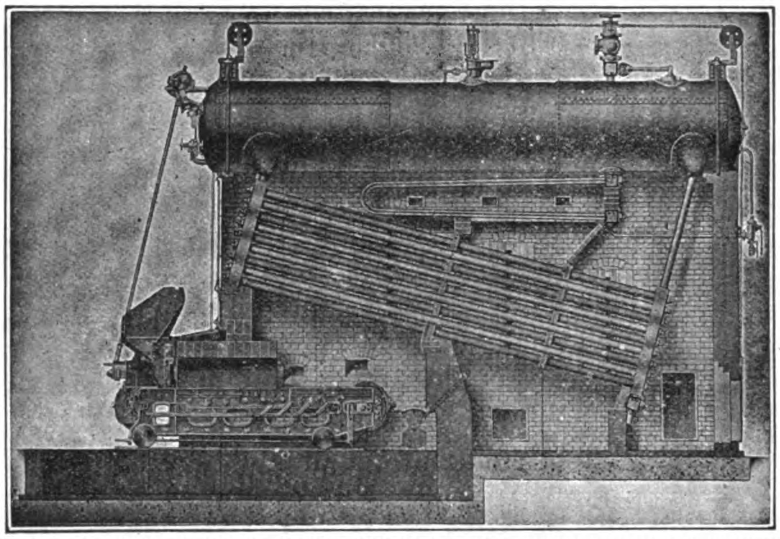
SOLE
REPRESENTATIVE
IN CHINA
FOR
THE FOLLOWING
FIRMS

## BABCOCK & WILCOX, LIMITED

PATENT WATER TUBE BOILERS

7,000,000 H. P. Land Type and 1,400,000 H. P. Marine Type in use
2,100,000 H. P. of which are installed in

**Electric Light & Traction Stations**



LAND TYPE BOILER FITTED WITH SUPERHEATER AND CHAIN GRATE STOKER

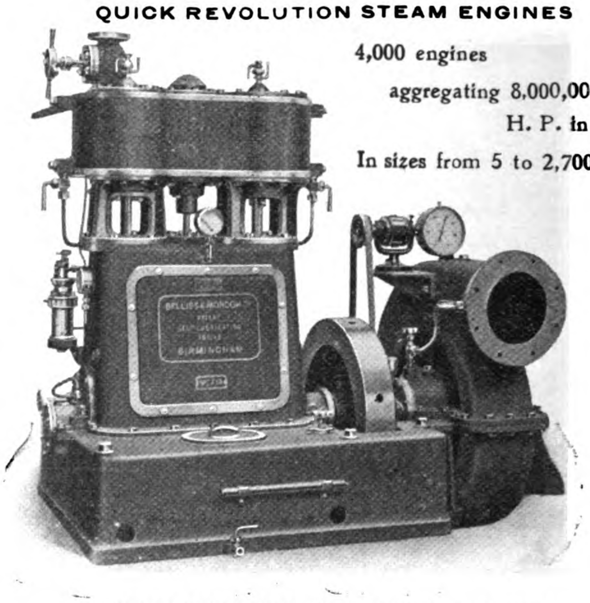
**Complete Steam Piping Installations and all Boiler House Accessories**

HEAD OFFICES:—Oriel House, Farringdon Street, London, E. C.
WORKS:—RENFREW, SCOTLAND

## BELLISS & MORCOM, LTD.

PATENT SELF-LUBRICATING
QUICK REVOLUTION STEAM ENGINES

4,000 engines
aggregating 8,000,000
H. P. in use
In sizes from 5 to 2,700 H. P.



DIRECT CONNECT CENTRIFUGAL PUMPING

**Condensing Plants, Paraffin Engines**

Head Office:
LEDSAM ST., BIRMINGHAM, ENGLAND

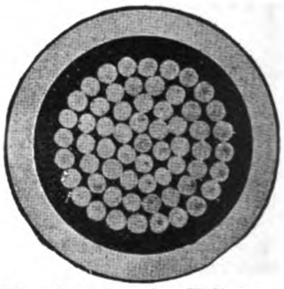
## W. T. Henley's Telegraph Works Co., Ltd.

HEAD OFFICES:
Blomfield St., London Wall, London

WORKS:
North Woolwich and Gravesend.

**Stocks carried at our**
**SHANGHAI DEPOT, 19 Szechuen Road.**

Prices on application for Rubber, Paper, Jute or Bitumen. Insulated, House Service, Aerial and Bare Copper Cables. Flexibles or Telephone and Telegraph Cables of all kinds.



"61—.101—.5 sq. in.: H. T. Paper and Lead Covered."

## A Few Eastern Works Which Have Installations From One Or All the Above Firms

*Green Island Cement Co., Hongkong.*
*Electric Traction Co., of Hongkong.*
*China Light & Power Co., Kowloon and Canton.*
*Manila Electric R. R. & Light Co.*
*Shanghai Municipality Electricity Works (Tramway & Light.)*
*Cie Francaise de Tramways et d'Eclairage Electriques de Shanghai.*
*Shanghai-Nanking Railway.*
*Admiralty Dockyard, Hongkong.*
*The Trading Co., Hankow.*
*The Hongkong Electric Light Co.*
*The Hongkong and Whampoa Dock Co.*
*China Inland Light Co., Shanghai.*
*Swatow Electric Light Co.*
*Hankow Light & Power Co.*
*Hankow (Native City) Waterworks & Light Co.*
*Tientsin Gas & Electric Light Co.*
*Peking Electric Light Co.*
*Peking Syndicate, Ltd.*
*Hanyang Iron & Steel Works.*
*Tientsin Enterprising Corporation.*
*Fushun Colliery, Manchuria.*

**Correspondence Solicited—Estimates Given**

Specifications drawn and estimates given for Boilers, complete plants including superheaters, pumps, complete steam pipe ranges, chimneys, etc., Engines and condensing plants; for Central Stations, Dockyards, Arsenals, Mills, Factories, Collieries, Mines, etc.

SHANGHAI
HONGKONG
CANTON
HANKOW
CHUNGKING
TIENTSIN
TSINGTAU

# ARNHOLD, KARBERG & CO.

TSINANFU
NEWCHWANG
NEW YORK
BATTERY PL.
LONDON
BERLIN

## General Agents for

**ELECTRICAL GENERATORS, SUPPLIES, ETC.**
Allgemeine Electricitaets Gesellschaft (A. E. G.) Berlin.

**ELECTRIC TRAIN LIGHTING**
Electric Train Lighting Co., Berlin.

**RAILWAY MATERIAL**
Arthur Koppel Ltd., Berlin

**STEAM LOCOMOTIVES**
The Baldwin Locomotive Works, Philadelphia.

**STEAM PUMPS**
The A. S. Cameron Steam Pump Co., New York.

**TELEPHONE APPARATUS**
The Western Electric Co., New York and Chicago.

**FLOUR MILLING MACHINERY**
The Nordyke & Marmon Co., Indianapolis.

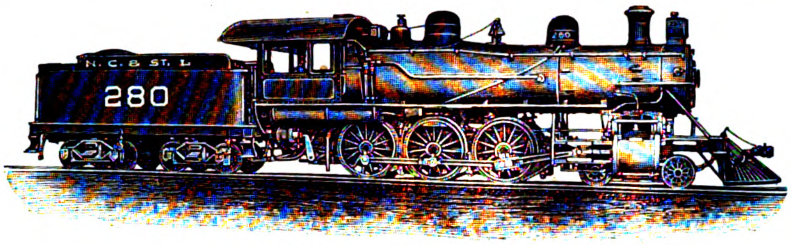
**BLASTING POWDER, FUSES, ETC.**
Rendrock Powder Co., New York.

**REINFORCED CONCRETE CONSTRUCTION**
Trussed Concrete Steel Co. (Kahn System), Detroit.

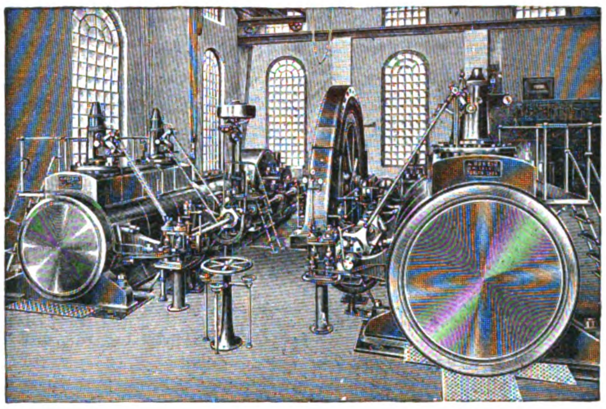
**HEAVY MACHINE TOOLS**
Niles-Bement-Pond Co., New York.

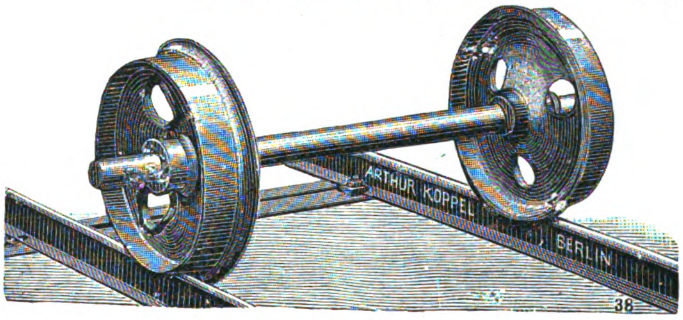
**BELTING**
Gandy Belting Co., Baltimore.

**DRILLING MACHINERY**
Davis Calyx Drill Co., New York.
Star Drilling Machine Co., Akron, Ohio.

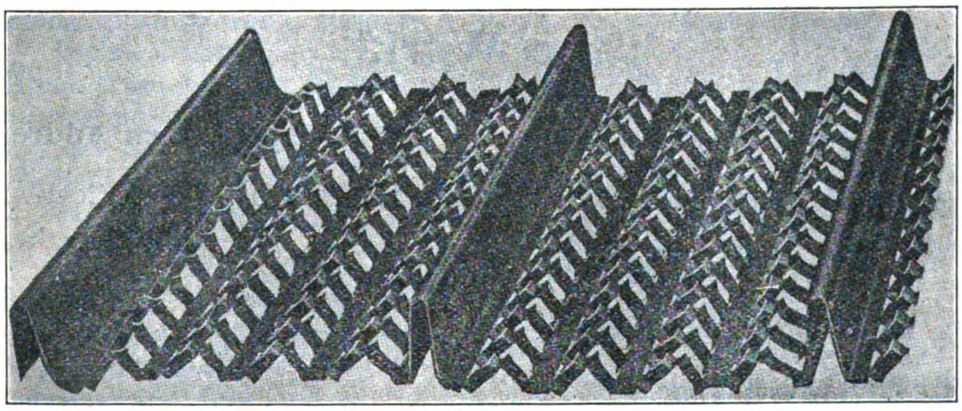


BALDWIN LOCOMOTIVE


A. E. G. ELECTRICAL PLANT



RAILWAY WHEELS AND AXLE


HY-RIB USED EXTENSIVELY FOR WALLS, SIDINGS, ROOFS, PARTITIONS, SUSPENDED CEILINGS AND FURRING

## General Agents for

**CONCRETE MACHINERY**
Ideal Concrete Machinery Co., South Bend.

**ROOFING**
Paraffine Paint Co., San Francisco.

**MOTORS, TORPEDO AND MINING MATERIAL**
Berliner Maschinenbau A. G. vorm Schwarzkoff, Berlin.

**ENGINES, PUMPS, BOILERS, ICE MACHINES, ETC.**
A. Borsig, Tegal, Berlin.

**AMMUNITION, ETC.**
Deutsche Waffen and Munitions Fabriken, Berlin, Karlsruhe.

**ARMY RIFLES, ARMS, ETC.**
Waffenfabrik Mauser A. G., Obendorf, Neckar.

**GUNS AND AMMUNITION**
Skodawerke A. G., Pilsen.

**MACHINE TOOLS**
Ludw. Loewe, A. G., Berlin.

**WAR VESSELS**
Stettiner Maschinenbau A. G. "Vulcan."

**STEEL**
Jonas & Colver, Ltd., Sheffield.

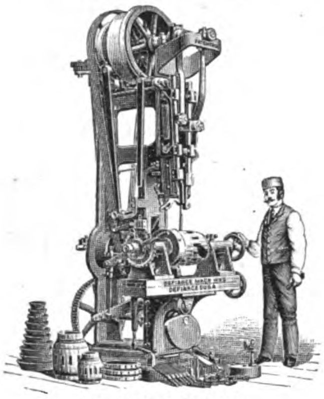
**COTTON MILLING MACHINERY**
Asa Lees & Co., Ltd., Oldham.

**MOTOR BOATS**
Carl Meissner, Hamburg.

**DIESEL ENGINES**
Diesel Engine Co., Ltd. London.

# ENGINEERING AND ELECTRICAL DEPARTMENTS

# "DEFIANCE" WOOD-WORKING MACHINERY



No. 2 Hub Mortiser

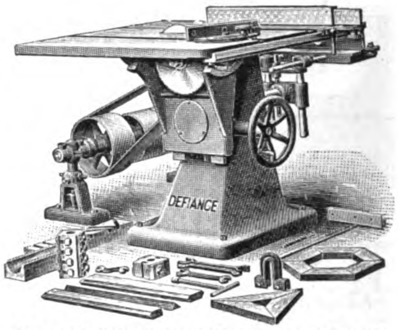
Invented and Built by

## THE DEFIANCE MACHINE WORKS

DEFIANCE, OHIO, U. S. A.

For manufacturing AUTOMOBILE WHEELS AND BODIES, Hubs, Spokes, Wheels, Wagons, Carriages, Rims, Shafts, Poles, Neckyokes, Single Trees, Hoops, Handles of all kinds, Bobbins, Spools, Insulator Pins, Table Legs, Balusters, Shoe Lasts, Oval Wood Dishes and for General Woodwork.

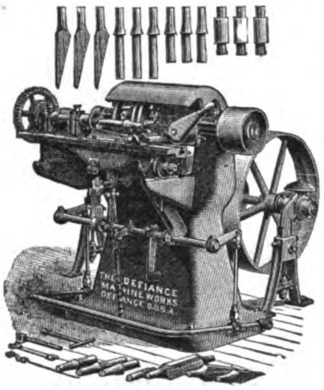
**Send for Catalogue**



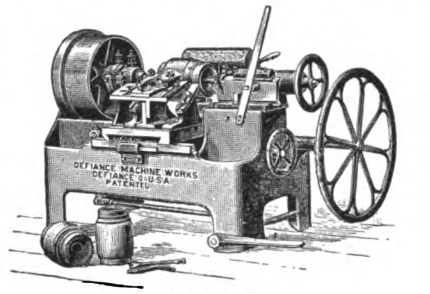

No. 8 Variety Sawing, Shaping and Cut off

**EASTERN AGENTS:**

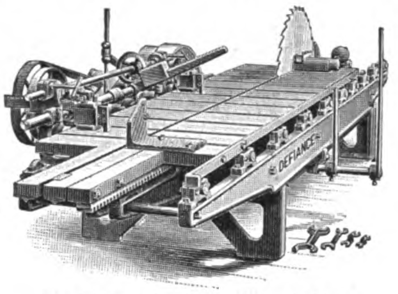
Schuchardt & Schutte, Shanghai | Mitsui & Co., Tokyo
Frank L. Strong, Manila, P. I. | London Office, 71 Queen St. E.C.



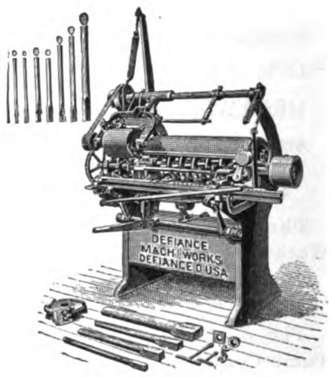
Insulator Pin Lathe



No. 1 Hub Lathe



No. 6 Short Log Saw Mill and Edger



Automatic Spoke Lathe

# *General Electric Company*

*PRINCIPAL OFFICE: SCHENECTADY, N. Y.*

## Largest Manufacturer of Electrical Apparatus in the World

The most extensive engineering and manufacturing resources in the world enable the General Electric Company to produce completely developed apparatus and accessories for the generation and transmission of electricity and its application to all lighting and power purposes -:- -:- -:- -:- -:- -:- -:- -:-

**Far Eastern Addresses:**

GENERAL ELECTRIC COMPANY (Special representative for the Far East) 23 Water Street, Yokohama, Japan

MITSUI & CO., Tokio, Japan.

BAGNALL & HILLES, Yokohama, Japan

FEARON, DANIEL & CO. }
ANDERSEN, MEYER & CO. } No. 4 Yuen Ming Yuen Road, Shanghai, China.

FRANK L. STRONG, Manila, P. I.

# California-Manila-Lumber Commercial Co.

Cable Address: "HOOPTON"

Codes: Western Union, Universal Edition—Lybo
A.B.C. 4th Edition—Century

Telephone 290
P. O. Box 782

IMPORTERS OF
OREGON PINE REDWOOD
and all kinds of Hardware

Representatives of
Leading American Manufacturers of Machinery, Building Material, Engineering Supplies, Etc.

Representatives of

**The Trussed Concrete Co.,** *Detroit, Mich.*
**Acetylene Apparatus M'fg. Co.,** *Chicago, Ill.*
**A. L. Canfield,** *New York City.*
**Contracting Plant M'fg. Co.,** *New York City.*
**Higgins Manufacturing Co.,** *Newport, N. J.*
**Lobee Machinery Co.,** *Buffalo, N. Y.*
**McCray Refrigerating Co.,** *Kendallville, Ind.*
**Morreau Gas Fixture M'fg. Co.,** *Cleveland, O.*
**Shoel Kopf, Hartford & Hanna Company,** *Buffalo, N. Y.*
**South Bend Chilled Plow,** *South Bend, Ind.*
**J. B. Wise & Co.,** *Watertown, N. Y.*

*Offices: 10-11-12 LACK & DAVIS Building, Calle Echague, Manila, P. I.*

CORRESPONDENCE SOLICITED

# Warner, Barnes & Co., Ltd.

Manila, London, New York, Iloilo, Cebu, Albay, Samar, Leyte

General Merchants, Insurance and Shipping Agents
Importers and Exporters

Steamship Agencies:
International Sleeping Car & Express Trains Company
The Great Trans-Siberian Route
China & Manila S. S. Co., Ltd.
Bucknall S. S. Lines, Ltd.
Nippon Yusen Kaisha
White Star Line
Bibby Line.

Express Companies
China Express Co.
Geo. W. Wheatley Co.'s Express
United States Express Co.
Neale and Wilkinson Express Co.

General Managers
The Pasig Steamer & Lighter Co., Ltd.

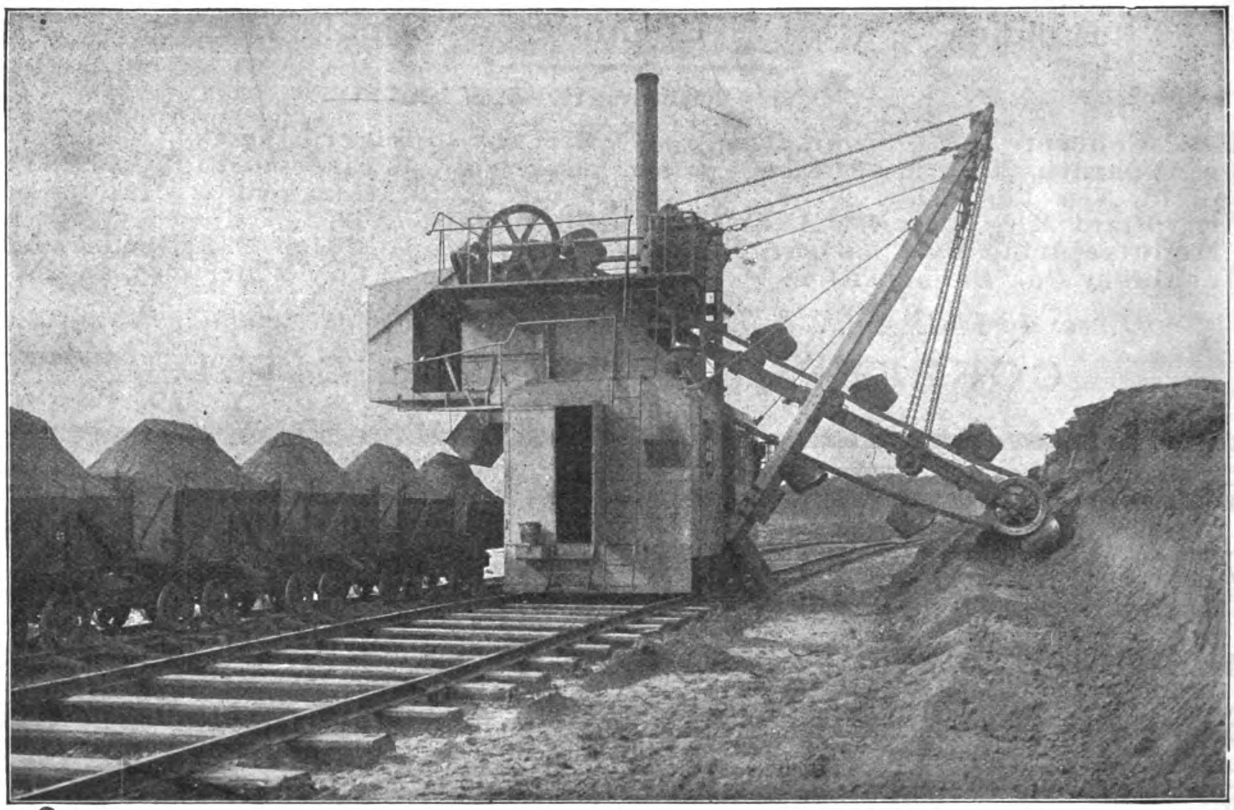
Insurance Agencies
Royal Exchange Assurance Corporation
Law Union & Crown Insurance Co.
State Fire Insurance Co., Ltd.
China Fire Insurance Co., Ltd.
Maritime Insurance Co., Ltd.
Western Assurance Co.
Yangtsze Insurance Association, Ltd.
Tokio Marine Insurance Co., Ltd.
Manufacturers Life Insurance Co.

Telegraphic Address:—WARNER
P. O. Box 294
Tel. Nos. 228—104—610

No. 7 Carenero
MANILA, P. I.

# MACHINERY OF ALL KINDS

## RAILWAY MATERIAL AND SUPPLIES

RAILWAY EXCAVATOR


AGENTS FOR:

Felten & Guilleaume-Lahmeyer Werke, Frankfort/Main, Electrical Supplies : : : :

Gasmotoren Fabrik Deutz, Cologne-Deutz, Original "OTTO" Gas and Oil Engines and Suction Gas Plants : :

Haniel & Lueg, Duesseldorf, Hydraulic and Mining Machinery, Heavy Steel Castings :

# SIEMSSEN & CO.

ENGINEERS & CONTRACTORS

SHANGHAI

HONGKONG, CANTON, HANKOW
TIENTSIN, TSINGTAU

*SPECIFICATIONS AND ESTIMATES GIVEN FOR INDUSTRIAL PLANTS OF EVERY DESCRIPTION*

All Kinds of Machine Tools, Pumps, Locomobiles, Oil Engines, Dynamos and Motors carried in stock at Shanghai

AGENTS FOR:

Orenstein & Koppel, Ltd., Berlin, Railway Material : : : :

R. Wolf, Magdeburg-Buckau, Patent Superheated Steam Locomobiles : : : : :

Weise & Monski, Halle/Saale, Pumping Machinery : : :

Cable Address: "SANIDAD"
Codes: Western Union, A. B. C. 5th ed.

P. O. Box 137
Telephone 3 and 4
Bodegas 1129

# AMERICAN HARDWARE & PLUMBING CO.

**30 Echague, Manila -:- New York Office, Park Row Bldg.**

*Heavy and Shelf Hardware.*
*Pipe and Fittings for Steam and Water Installations.*
*Steel Bars for Reinforcing, Forging and Tools.*
*Roofing Sheets, Plain Sheets, Sheet Piling, Nails.*
*A broad line of General Contractors' Supplies.*

Store, 30 Echague, Manila

*Paints and Oils*
*Lubricating Oils*
*Hose and Belting*
*Pumps and Fencing*
*Plate and Window Glass*
*Metal Ceiling, Scales*
*Stoves, Crockery*
*Glassware, General House Furnishings, Safes, Sporting Goods and Typewriters*

We carry the largest stock in the Far East of Sanitary Fixtures, and pipe and fittings for sanitary installations. We are prepared to make sanitary installations on the most favorable basis, and can furnish plans and estimates promptly. Correspondence solicited.

## CADWALLADER GIBSON LUMBER CO.

WHOLESALE AND RETAIL DEALERS AND EXPORTERS IN

## PHILIPPINE MAHOGANY

**Hardwood Timber for Bridge Construction and Railway Sleepers a Specialty : : : :**

We Own Two Big

## Sawmills and Furniture Factory

## Gibson Furniture

BLINDS, SASH, DOORS, ETC., MANUFACTURED BY

**Up-to-date Machinery**

OFFICE FIXTURES, SHOW WINDOWS, STORE FURNISHINGS, DESKS, ETC.

ESTIMATES FURNISHED

Yard Office . . . . . . 302 CALLE SAN MIGUEL, MANILA
SIMAY, BATAAN, P. I

Cable Address: CAHOY

Codes: Western Union, Universal Edition; A. B. C.

## Export and Import Lumber Co.

SUCCESSORS TO

## The B. W. Cadwallader Company

P. O. Box 433 MANILA, P. I. Telephone 363

**Importers** of Oregon Pine Lumber
**Exporters** of Philippine Hardwood Lumber, Sleepers and Timber for Railroad Construction, etc. : : : : : :

## W. W. PAYNE

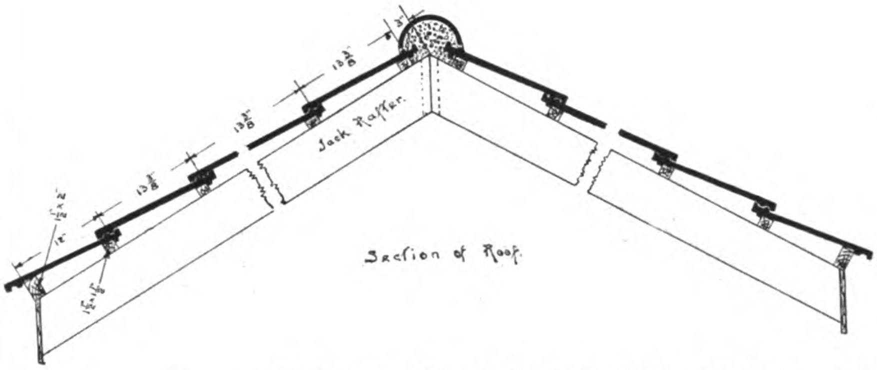
President and General Manager

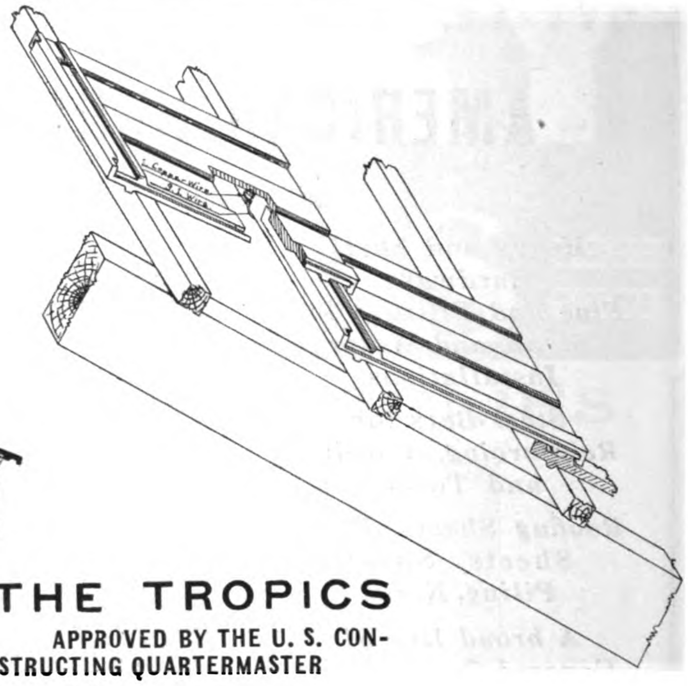
Mills and Office

51 CALLE TANDUAY MANILA, P. I.

# DOUBLE INTERLOCKING REINFORCED CEMENT ROOFING TILE

PATENT APPLIED FOR



## THE ROOFING FOR THE TROPICS

ADOPTED BY THE PHILIPPINE GOVERNMENT AS ITS STANDARD || APPROVED BY THE U. S. CONSTRUCTING QUARTERMASTER

## C. FRESSEL & CO.

G. LUDEWIG S. EN C. SUCCESSORS

Office: 118-122 Nueva, Binondo, Manila, P. I.

P. O. Box 455 -:- Cable Address: FRESSEL. Codes Used: A. B. C. 4th and 5th Editions -:- Telephone 195

---

Cable Address: "BANGA"—A. I. CODE

Main Office: ZAMBOANGA, MINDANAO, P. I.

## The Port Banga Lumber Co., Inc.

Mills: Port Banga, Sibugay Bay, Mindanao, P. I.

We are cutting at present:

Yacal
Molave
Guijo
Lumbayao
Pagatpat

WHOLESALE ONLY!

Posts, Pilings, R. R. Ties, Bridge Timber, Telegraph Poles.

Telegraph Cross Arms, and Lumber cut to dimensions.

Temporary Piles of 4 Group timber 10 to 70 ft. long.

Permanent Piles of Liusin, Molave, 10 to 70 feet long.

Total amount cut and manifested 12 months ending October 1st, 1908, 3,034,651 Board Feet.

The Harbor at Port Banga, where largest Ocean-going vessels can enter, is safe at all seasons of the year and anchorage is good. Ships always promptly loaded and we give absolute guarantee that material will be delivered alongside as rapidly as ship can take it. Ship Charter can be based on these facts. One to two ships per month calling at Port Banga makes it possible to make prompt deliveries.

---

Telephone No. 551
P. O. Box No. 284

Cable address: "GREILSAMMER"

## Greilsammer Bros.

General Importers

Wholesale and Retail Jewelers

Diamonds,
Jewelry,
Watches.
Sterling and
Plated Ware

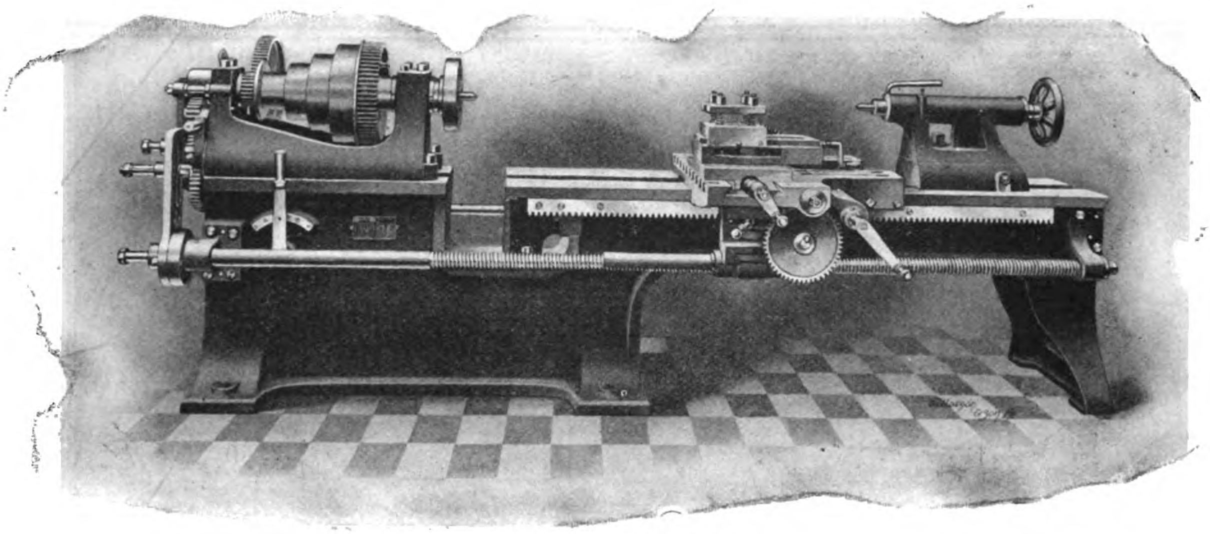
34-36 Escolta Manila, P. I.

# JARDINE, MATHESON & CO., LTD.

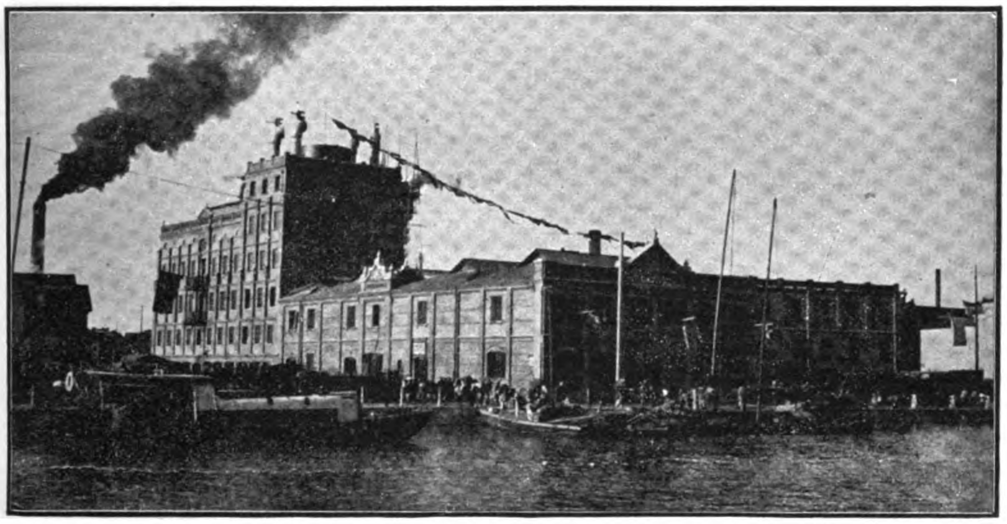
## HONGKONG AND CHINA

**MACHINERY DEPARTMENT**
Peking Road, Shanghai

**ENGINES, BOILERS, PUMPS AND ELECTRICAL MACHINERY FOR ALL PURPOSES, ENGINEERING AND ELECTRICAL SUPPLIES IN STOCK**



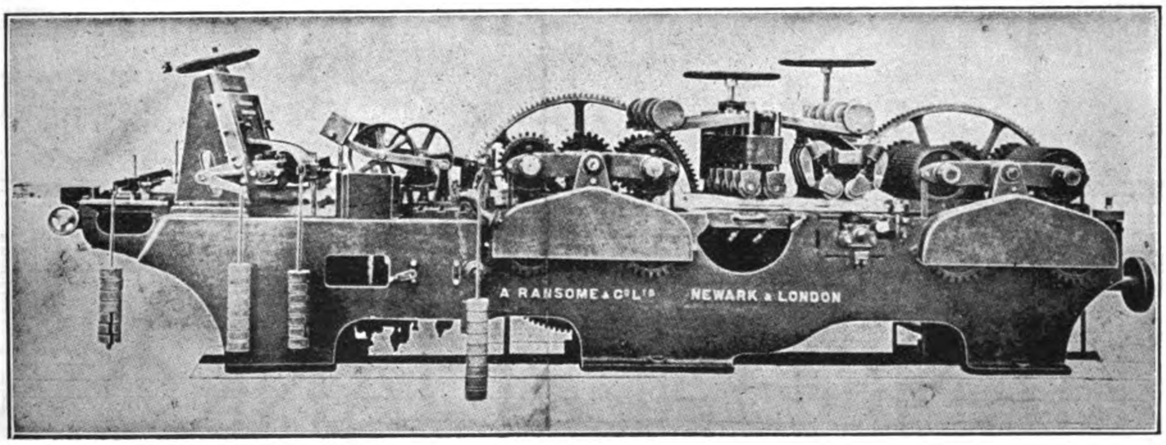
LATHES AND TOOLS OF ALL KINDS



YUEN CHUNG FLOUR MILL, SHANGHAI—MACHINERY FURNISHED AND INSTALLED—JARDINE MATHESON & CO.

**SOLE AGENTS FOR:**

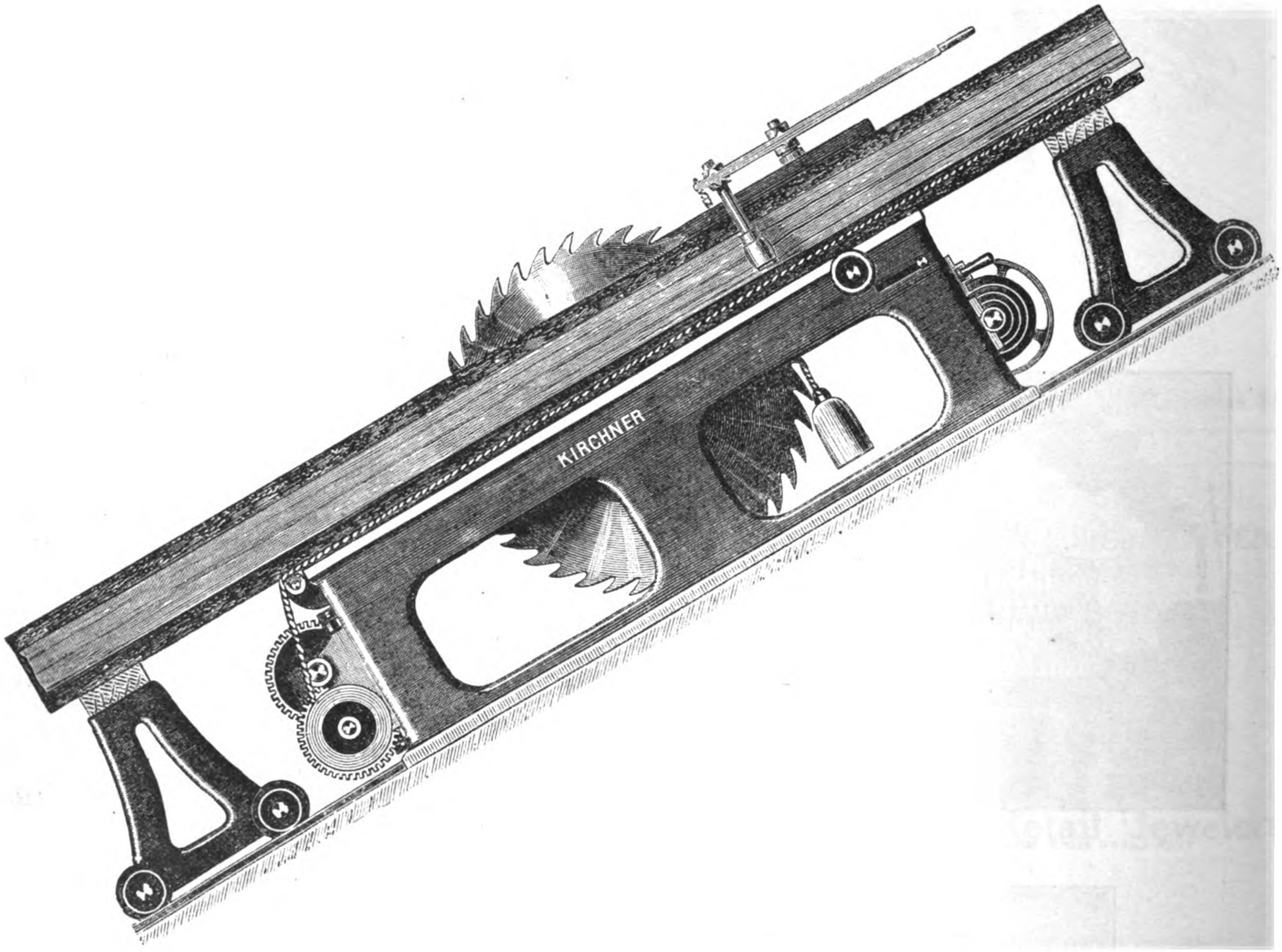
Messrs. Chas. Price & Co.
Messrs. J. B. White & Bros.
Messrs. Gwynnes, Limited.
Messrs. Marshall Sons & Co., Ltd.
Messrs. Merryweather & Sons, Ltd.
Messrs. A. Ransome & Co., Limited.
Messrs. Meredith Jones & Sons, Ltd.
Messrs. O. & W. Ormerod.
The Westinghouse Brake Co., Ltd.
Messrs. Bruce Peebles & Co., Ltd.
The British Northropp Loom Co.
Messrs. Joshua Hendy Iron Works.
Messrs. Henry Livesey, Limited.
The Barber Asphalt Roofing Co.
Messrs. Thos. & Wm. Smith, Limited
The Kitson Lights Foreign Supply Co.
North British Locomotive Co., Ltd.
Etc.




HIGH-SPEED FLOORING AND MATCH BOARDING MACHINE

# SHANGHAI MACHINE COMPANY

Cable Address: "FERRO"




Large Stock of Kirchner's Wood Working Machines

SHANGHAI, HANKOW

**A SQUIRT OF OIL** is all you can get onto the bearings of a cone pulley of a lathe. Friction produced by wide belts of high tension or high speed soon burn up this oil.

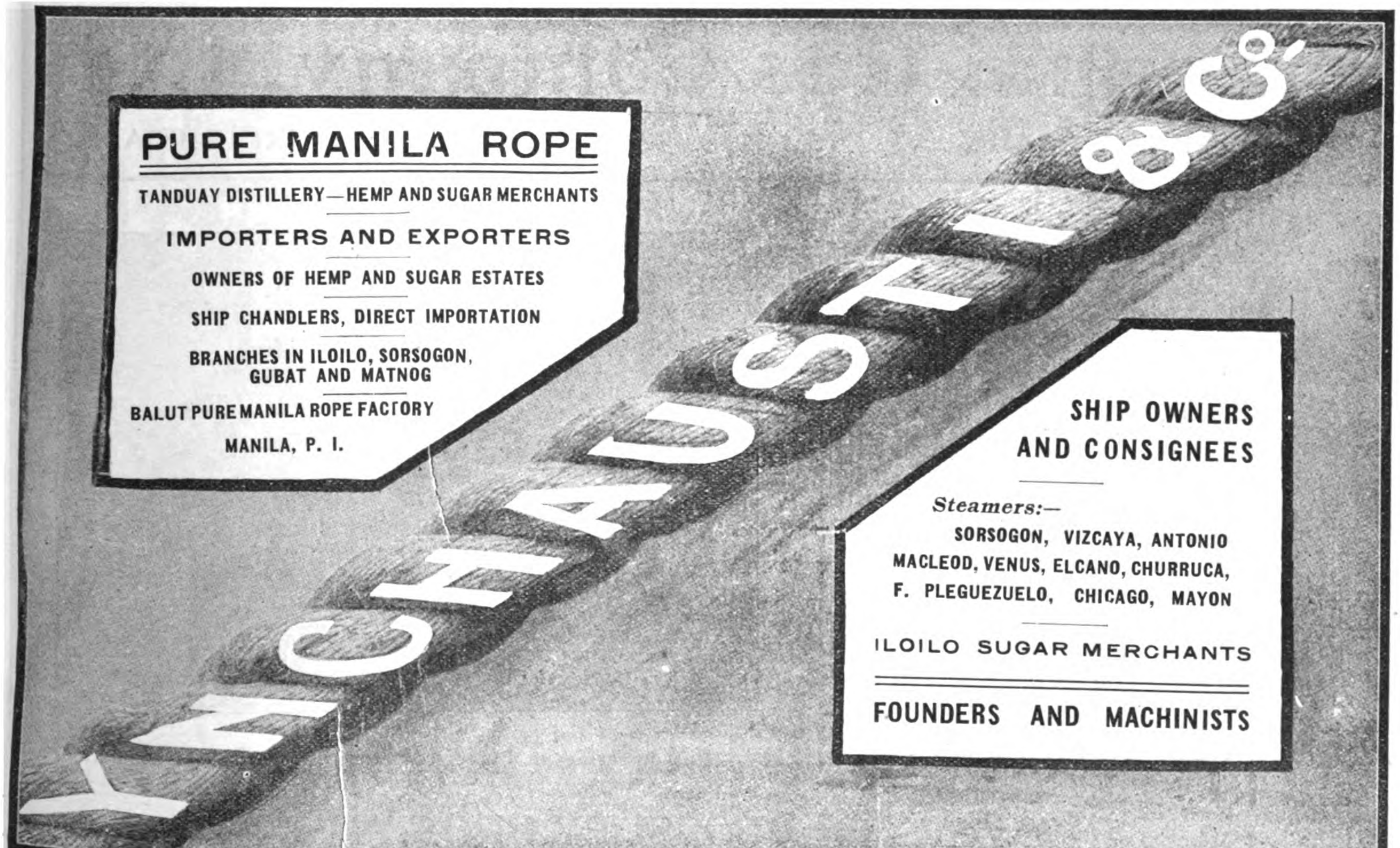
**THE REMEDY** The "Patent Head" Lathe has independent bearings for the driving pulley with a practically inexhaustible supply of oil for each bearing. These bearings will endure any speed or any tension of the belt. This means that the R. P. M. of the driving pulley can be made so high (and sustained indefinitely) that in spite of reducing this by 12 to 1 back gear (producing the most powerful cutting speed the lathe is capable of) *a very high cutting speed can be maintained.* A cone pulley engine lathe is incapable of producing such a sustained high powerful cutting.

## LODGE & SHIPLEY MACHINE TOOL CO.

**CINCINNATI, OHIO, U. S. A.**

**FOREIGN AGENTS:** Chas. Churchill & Co., Ltd., London, Birmingham, Manchester, Glasgow, Newcastle-on-Tyne; Werner Hult, Helsingfors; Donauwerk, Ernest Krause & Co., Vienna; V. Lowener, Copenhagen, Christiana, Stockholm; Alfred H. Schutte, Barcelona, Bilbao, Brussels, Cologne, Milan, Paris; Schuchardt & Schutte, Berlin, Budapest, St. Petersburg; R. S. Stokvis & Zonen, Ltd., Amsterdam, Rotterdam, Gronigan, Brussels; Andrew & George, Yokohama; Bevan & Edwards Propy. Ltd., Melbourne; Adolf B. Horn, Havana.

**AGENTS WANTED FOR TERRITORY IN WHICH WE ARE NOT ALREADY REPRESENTED**



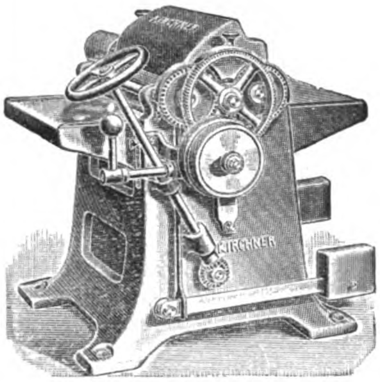
CABLE ADDRESS:
"FEDERATION"

# GERMANN & CO., Ltd.

PHONE 500
P. O. BOX 310

## Electrical and Mechanical Engineers and Contractors

3 PASAJE DE PEREZ, MANILA, P. I.

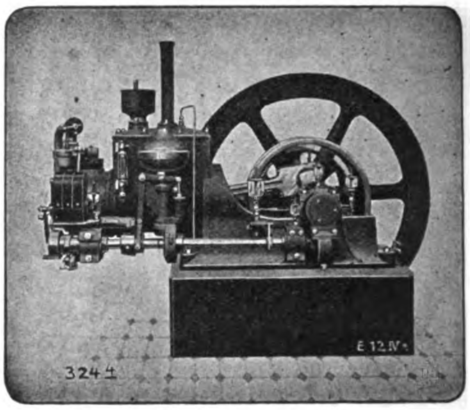


KIRCHNER'S PLANER

GENERAL MACHINERY
AND SUPPLIES

ELECTRIC LIGHT AND POWER
PLANTS

SCIENTIFIC APPARATUS
AND INSTRUMENTS



PETROLEUM MOTOR ENGINE

COMPLETE INDUSTRIAL AND AGRICULTURAL MACHINERY OUTFITS

CONSULTING AND CONSTRUCTING ENGINEERS

REPRESENTING LEADING MANUFACTURERS OF THE UNITED STATES AND EUROPE

# Shanghai Gas Company, Ltd.

Offices: THIBET ROAD     Show Room: NANKING ROAD

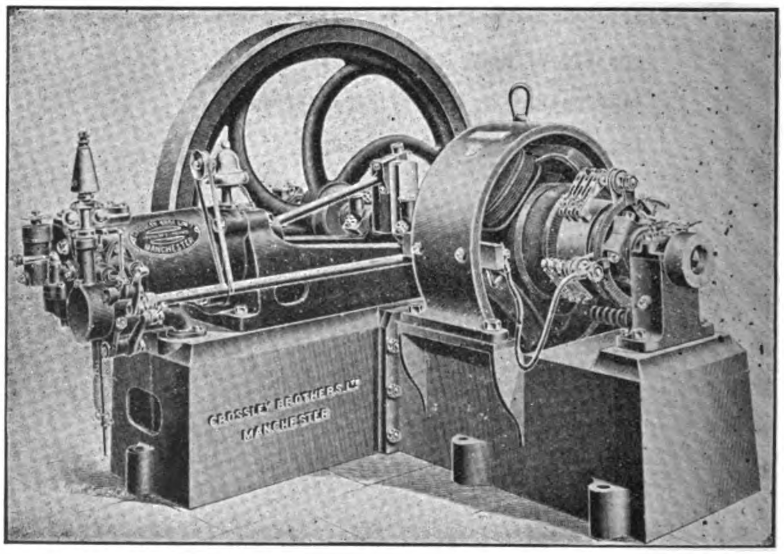
**To obtain Light, Heat or Power in the most economical way**

## USE GAS

The Shanghai Gas Company let on loan (free) Gas Cookers, Gas Fires and Radiators.
Also High Power Lamps and Geysers on hire.
Large assortment of Welsbach Gas Fittings always kept in Stock.

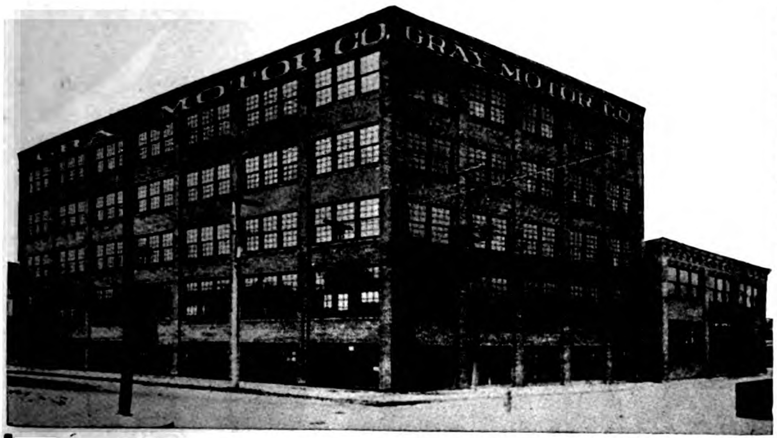
APPLY FOR PARTICULARS

威麟




4 KILOWATT PLANT, DIRECT CONNECTED TO CROSSLEY ENGINE

Agents for CROSSLEY BROS.

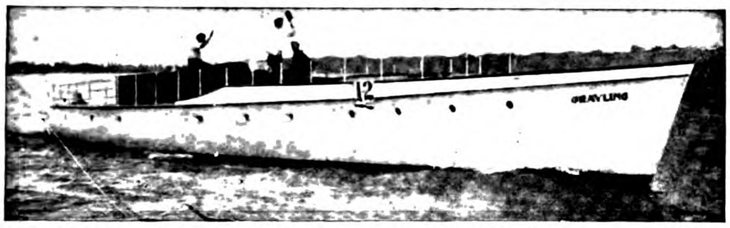



**GRAY MOTORS are made in the largest and most up-to-date plant in the world devoted exclusively to the manufacture of 2-cycle marine motors.**

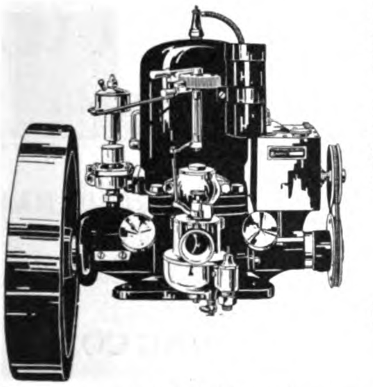
We build nothing in our plant but GRAY motors. Our plant was built and equipped to build GRAY Motors and *nothing else.*

We *concentrate* our entire attention, ability and capital to build the *best* motor it is possible to build, and sell it at a price that gives us the *greatest volume of 2-cycle marine business in the world.*

When you get a GRAY Motor, you get the benefit of all our concentration at a price made possible only by the enormous volume of our business.




*The Fastest Cruising Motor Boat in the World* of its length and beam, the yacht Grayling, is equipped with three GRAY MOTORS.



*Features of Gray Motors:*
Fuel Economy.
Long Life.
Every part absolutely interchangeable.
Mechanical pump lubricator.
Sparl coil on cylinder.
Starts without cranking.
Long, high grade, interchangeable bearings, cylinder, piston, piston rings are ground to a mirror finish giving perfect compression. Ball thrust bearings.
Oil ring on cranks, elevated gear driven commutator, bronze gear driven pump, Krice or Schebler carburetor.

*No other motor*, high price or low price, includes all these features.

1, 2 and 3 cylinders 3 to 36 horse power

*Heavy Duty Motors for Fishing Boats* and commercial purposes. Gray Motors are made in styles and sizes suitable for *any* boat under *anv* conditions.

All prices of Gray Motors include complete marine and electrical outfits, with batteries all wired up, duplicates of parts subject to the most wear and complete outfit of high grade tools. The entire outfit is carefully packed in a water proof cover and excelsior and securely fastened in an iron bound box.

The Gray Motor Company maintains a Department of Foreign Service which gives every inquiry prompt, careful and courteous attention. Correspondence is conducted in any language. Write today for catalog and full information.

# GRAY MOTOR CO.

**88 Leib St., Detroit, Mich., U. S. A.**

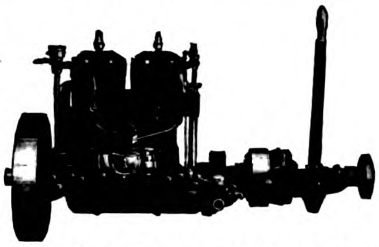
# FERRO

**The World's Standard Boat Motor**

In your choice of a motor boat, the deciding factor should be the engine. On it depends your ultimate pleasure and satisfaction in boating.

By choosing the Ferro Motor, you take no chance. You know that you are getting a marine engine which, in actual service, has proven itself the world's standard.

The Ferro design embodies the most advanced ideas in engine construction. The materials and workmanship that enter into every process of Ferro manufacture are up to the highest standard of quality.



Ferro motors are built to meet conditions in the Far East. They are today giving satisfaction in all parts of the world.

Write us for full information on boats, motors and equipment. We can help you select your exact requirements. Ferro literature sent free on request. A complete line can be secured from the nearest office of this paper.

**We Want Agents**

We still have some favorable territory for which we have no selling agents. If you are in a position to take up the sale of Ferro Motors, write us in full.

The Fastest Boat in Auckland Harbor, New Zealand, Equipped with 25-HP Ferro Engine

**THE FERRO MACHINE & FOUNDRY COMPANY**

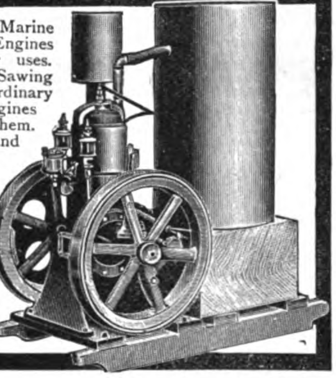
Largest Marine Engine Builders in the World.

Main Offices,
820 Superior Ave.
Cleveland, O., U. S. A

New York Office.
44 Cortlandt St.,
2nd Floor

# DETROIT OIL ENGINES *Fully Warranted*

Marine Oil Engines for boats. Marine Reverse Gears. Stationary Oil Engines for farms, shops, and all power uses. Pumps and pumping outfits. Sawing outfits. Electro-generating sets. Ordinary lamp oil used for fuel. Detroit Engines require no heater or lamp to start them. Attachments for petrol, alcohol and Gas. Sizes from 2 hp. to 100 hp. One to eight cylinders. Prices very attractive. Write for agency terms. Valuable territory offered to reliable firms or individuals. Bank references given. Handsomely illustrated catalog sent on request.



DETROIT ENGINE WORKS,
Mel rum Avenue, Detroit, Michigan, U.S.A.

# IMPROVED AUTOMATIC WRENCH

**Self-adjusting, works automatically on pipes, rods and nuts. Strongest, simplest and handiest wrench ever made. Grips instantly, the harder the pull the tighter the grip. Especially suitable for Machine shops, Garages and Dock Yards. Made in the following sizes:**

| | | | |
|---|---|---|---|
| 6 in. | opens to | ¾ in. | Price 2s. |
| in. | " | 1¼ in. | " 3s. |
| 12 in. | " | 1½ in. | " 4s. |
| 16 in. | " | 2 in. | " 5s. |
| 20 in. | " | 2½ in. | " 6s. |

**Sample wrenches sent prepaid on receipt of Money order.**

**IMPORTERS, DEALERS and AGENTS. The "Superior Wrench" is in use throughout the United States and in many foreign countries. Write for our special offer and printed matter.**

**SUPERIOR WRENCH CO., Marshalltown, Iowa, U. S. A.**

# Fearon Daniel & Co.

# Andersen Meyer & Co.

## *ENGINEERING DEPARTMENT*

**4 and 5 Yuen Ming Yuen Road, Shanghai**

### *SOLE AGENTS FOR:*

GENERAL ELECTRIC CO. OF NEW YORK
Electric Light, Power, and Railway Apparatus, Electric Supplies.

BRITISH THOMSON-HOUSTON OF RUGBY
Electric Engineers and Manufacturers.

AMERICAN CAR & FOUNDRY CO.
Manufacturers of Railway Cars.

BUDA FOUNDRY & MANUFACTURING COMPANY
Railway Material, Track Supplies, Etc.

McCONWAY & TORLEY CO.,
Janney Car Couplers.

C. T. HAM MANUFACTURING CO.,
Lanterns and Lamps.

BOLTE & WEYER CO.,
Gasoline Lighting Systems.

KUEFFEL & ESSER,
Drawing Materials and Surveying Instruments.

THE FERRO MACHINE & FOUNDRY COMPANY,
Gasoline Motor Boat Engines.

THE AVERY MANUFACTURING CO.,
Agricultural Implements.

THE H. W. JOHN'S-MANVILLE CO.,
Asbestos Goods, Steam Packing, Etc.

A. & P. STEVEN,
Lifts.

AJAX FIRE ENGINE WORKS,
Chemical Fire Engines.

DEMPSTER, MOORE & CO.,
Machine Tools.

DE LA VERGNE REFRIGERATING CO.,
Ice & Refrigerating Machinery.

DE LOACH MANUFACTURING CO.,
Wood Working Machinery.

THE SULLIVAN MACHINERY CO.,
Mining Machinery.

**MACHINERY AND ENGINEERING SUPPLIES**

**RAILWAY MATERIAL, ELECTRIC LIGHT AND POWER PLANTS**

# VELUVINE

BULLDOG-PAINTS AND VARNISHES

BULLDOG-brand.

F.A.v.D.LOO & Co
Shanghai

## IS THE PAINT OF THE FUTURE

## For Out and Indoor Work of Every Kind

RAILROADS
TRAMWAYS
BARRACKS
RESIDENCES
SCHOOLS
YACHTS
STEAMSHIP
COMPANIES
HOSPITALS
HOTELS
BUILDINGS
FACTORIES

A NEW and perfected Veluvine paint superseding Varnish, with remarkable spreading, elastic and weather resisting properties. **One coat equals two coats of common paint and one of varnish.** Sanitary. Washable. Will not crack. Will not peel. Will not blister. Will not fade. Twelve months' guarantee given by the manufacturer. Saves Time, saves Labour, saves Varnish, saves Money.

**ONE GALLON PROPERLY APPLIED WILL COVER ABOUT 90 SQUARE YARDS**

Veluvine paint spreads like best wearing body Varnish, and **dries slowly** in the same way, but is far more elastic, and therefore does not crack, as even the best Varnishes will. **Veluvine paint is not an enamel,** and should not be compared with enamels for price. It is much **more economical, more durable** and covers **more surface**. Veluvine paint is the only satisfactory paint for Galvanised Iron and Galvanised Steel.

Any colour not included can be matched. Special quotation on application with sample of exact tint required.

## Prices Quoted on Application

General Agents for CHINA, JAPAN, SIAM

# F. A. VANDER LOO & CO.

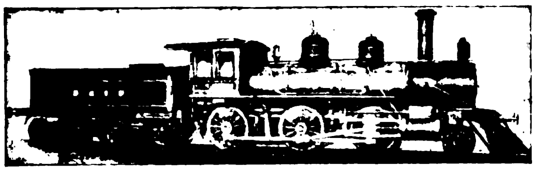
2 Jinkee Road ❧ Shanghai, China ❧ Telephone 2530

*Agents for the Philippines: Messrs. SPRÜNGLI & CO.*

# Baldwin Locomotive Works

Principal Offices and Works:
PHILADELPHIA, PA., U. S. A.
Cable Address: "Baldwin, Philadelphia"

*Agents for China:* *ARNHOLD, KARBERG & CO.*
*Agents for Japan:* *FRAZAR & SALE, Yokohama*



Builders of
LOCOMOTIVES
of every description

Including
ELECTRIC LOCOMOTIVES
ELECTRIC TRUCKS



# Standard Steel Works Co.

HARRISON BLDG., PHILA., PA., U. S. A.

SOLID FORGED AND
ROLLED STEEL WHEELS

STEEL TIRED WHEELS, FORGINGS

STEEL AND IRON AXLES, CASTINGS

ELLIPTIC AND HELICAL SPRINGS



# Swift & Company

request inquiries and orders for

**Fertilizer**
Any analysis, for any kind of crop.

**Hides and Leather**
Cattle hides, raw or tanned.

**Tallow**
All grades—for any purpose.

**Toilet and Laundry Soaps and Washing Powder**
All high grade products.

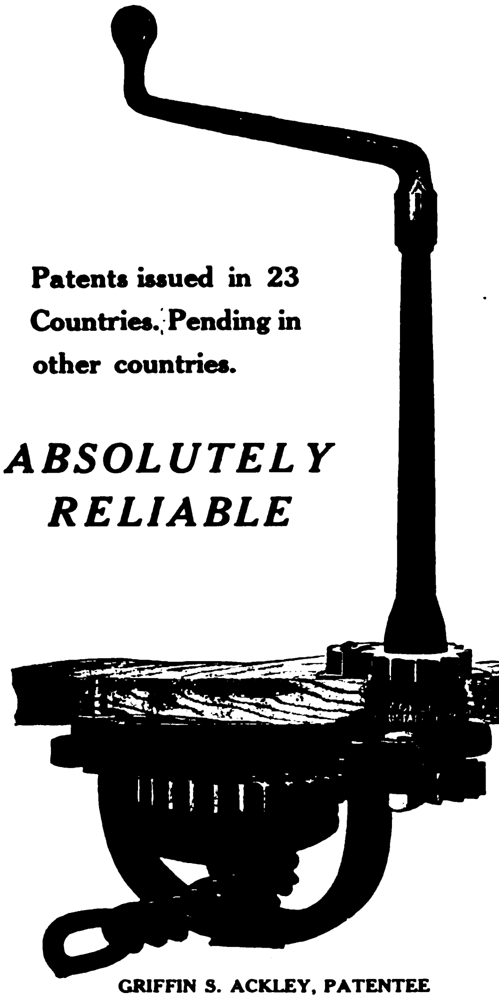
**Hog and Beef Casings, Hog Hair, Etc.**

Correspondence regarding any packing house product respectfully solicited.

**Swift & Company, U. S. A.**

ORIENTAL HEADQUARTERS
SWIFT & COMPANY - - - - - No. 32 Nanking Road, Shanghai
WM. H. ANDERSON & CO., - - Foot Santa Cruz Bridge, Manila





**Patents issued in 23 Countries. Pending in other countries.**

***ABSOLUTELY RELIABLE***

GRIFFIN S. ACKLEY, PATENTEE

# THE ACKLEY ADJUSTABLE BRAKE

**Adapted to all kinds of Cars. As Service or Emergency Brakes**

Takes up slack Chain quickly. *Powerful,* Easily installed. All moveable parts revolve on roller bearings which gives ease of action and quick release.

Full information or trial Brakes on application to any of the following Agents.—

**FRANK L. STRONG**
Agent for Manila, P. I.

**CHINA GENERAL ENGINEERING CO.,**
Agents for China, Shanghai.

**SALE & FRAZER LIMITED,**
Agents for Japan, Korea, and Manchuria, Tokio.

AUSTRALIAN AGENCY:

## R. W. CAMERON & CO.

Sydney, Melbourne, and Wellington

Kontinentale Bremen, Ges., M. B. H. Lankwitz. Berlin.
Schmassmann & Co., 110 Bahnhofstrasse, Zurich.
C. Dubbelman, 45 Rue de la Caserne, Bruxelles.
G. S. Albanese, Ingenieur, 62 Rue Saint-Lazare, Paris.

OR DIRECT TO

**BRITISH ACKLEY BRAKE CO.**
Westinghouse Building, London, W. C.

**ACKLEY BRAKE COMPANY**
50 Church Street, New York City, U. S. A.

THE FAR EASTERN REVIEW
COMMERCE ⊛ ENGINEERING ⊛ FINANCE

VOL. VII. MANILA, P. I., SHANGHAI, AND YOKOHAMA, SEPTEMBER, 1910 No. 4.

# The Mineral Resources of the Philippine Islands

A comprehensive review of the mineral resources of the Philippine Islands, with a statement of the production of commercial mineral products during the year 1909, has just been issued by the Division of Geology and Mines, Bureau of Science, under the direction of Warren D. Smith, Ph. D., Geologist and Chief of the Division, and through the courtesy of the Director of the Bureau illustrations have been placed at the disposal of the FAR EASTERN REVIEW for reproduction.

In the introduction, the Chief of the Division expresses satisfaction with the development work in this industry and is optimistic as to the future. He writes:

"The production of gold in 1909 shows only a slight increase over the preceding year. A careful investigation of the facts demonstrates that this is not an unhealthy sign. The chief cause of the apparent setback in Benguet was due to severe floods which for a time crippled the two largest plants. However, another reason is found in the fact that the operators of mines have reached the conclusion that a larger amount of work than formerly should be expended on development, rather than as at present in operating mills. An encouraging amount of underground work is now being done on the majority of the properties, and in some cases some very large bodies of ore are blocked out. Those who have waited the longest before putting up mills have not only the advantage of large blocks of ore, but also can utilize the experience of others who have operated.

"The increase in the coal output is very satisfactory, as is also the awakened interest in other deposits such as oil, sulphur, and iron. Copper, too, is receiving close attention. Perhaps the greatest interest of the year has been in the Tayabas oil fields. Many claims have been located on the peninsula. Recently an oil rig was shipped to the region, and it is hoped that encouraging results will soon be obtained."

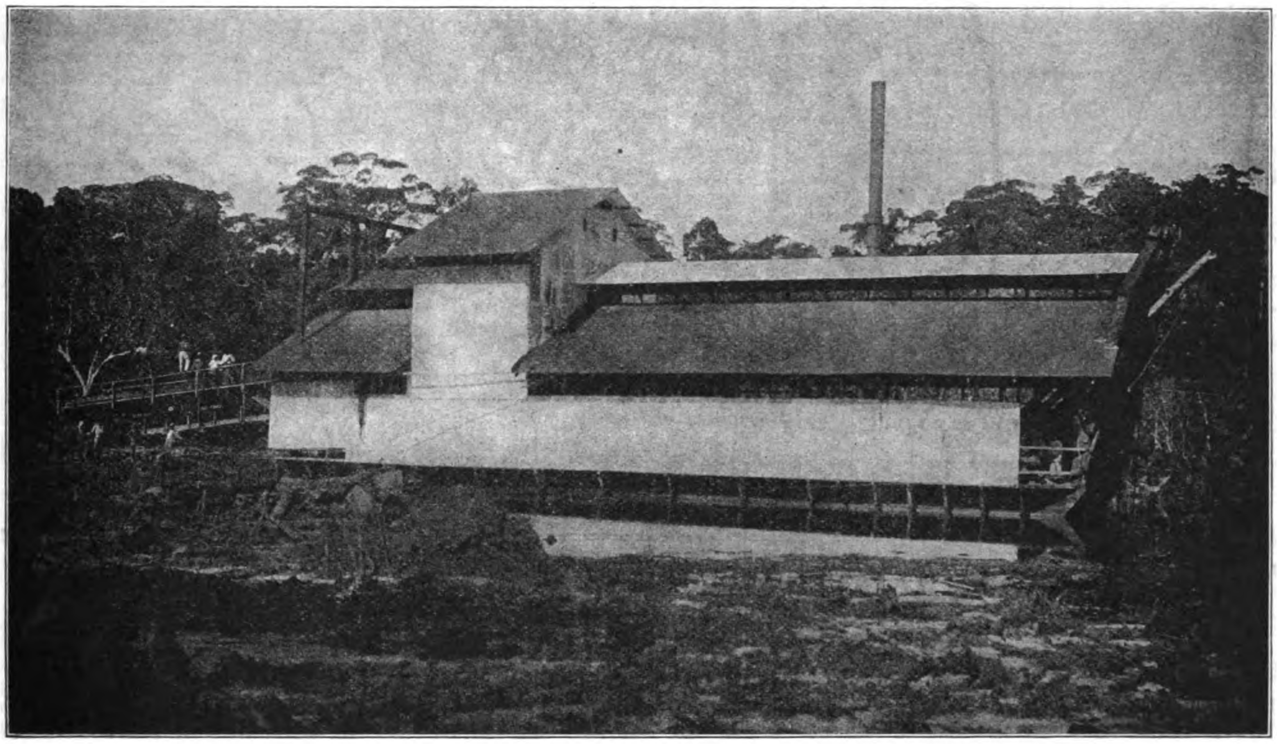
The following statistics are submitted covering the increase in production which have special reference to the output of gold and coal:

TABLE I.—*Mineral production in* 1909
[In pesos (*a*) Philippine currency.]

| Source. | Gold. | Silver. (b) | Copper. | Iron. | Manganese. | Coal. |
|---|---|---|---|---|---|---|
| Albay | | | | | | (*c*) 197,184 |
| Ambos Camarines | 216,701 | | | | | |
| Bulacan | | | | 31,078 | | |
| Ilocos Sur | 1,425 | | | | | |
| Ilocos Norte | | | | | 12,500 | |
| Masbate | (*d*) | | | | | |
| Mindanao (Surigao) | 10,608 | | | | | |
| Mountain Province | 256,400 | | (*e*) | | | |
| Nueva Ecija | 7,200 | | | | | |
| Pangasinan | 2,500 | | | | | |
| Tayabas | 360 | | | | | |
| Total | 495,194 | | | 31,078 | 12,500 | 197,184 |

| | |
|---|---|
| Total metallic with coal | 735,956 |
| Total nonmetallic | 1,504,091 |
| Grand total | 2 240,047 |

(*a*) One peso Philippine currency is equal to fifty cents United States currency.
(*b*) Some silver generally found alloyed with Philippine gold. None is mined separately.
(*c*) 30,336 tons, at 6.50 pesos per ton.
(*d*) No mills running.
(*e*) Small amount smelted by Igorots.



*Courtesy Bureau of Science*

THE STANLEY DREDGE OPERATING ON THE PARACALE RIVER

TABLE II.—*Comparative statement of mineral production in* 1907, 1908, *and* 1909.

[In pesos Philippine currency.]

| Year | Gold. | Silver. | Copper. | Iron. | Coal. | Manganese. | Nonmetallic. |
|---|---|---|---|---|---|---|---|
| 1907 | 141,194 | 95.53 | - | | 26,799 | | |
| 1908 | 434,500 | 2,750.0052 | | 17,500 | 77,166 | | 815,918 |
| 1909 | 495,194 | (*f*) | .... | 31,078 | 197,184 | 12,500 | 1,504,091 |

(*f*) Not estimated separately.

# *THE GOLD DISTRICT OF PARACALE-MAMBULAO, AMBOS CAMARINES

The Paracale-Mambulao gold field, which has recently been the center of unusual activity in the development of placer and quartz properties, is given an extended review by Warren D. Smith, Ph. D., whose direction of the Division of Mines has been marked by the greatest conservatism and the extreme care taken to secure data at first hand. This field takes second place for the year as a gold producer and there is promise that it will forge ahead very rapidly. Mr. Smith writes:

"The Paracale-Mambulao gold field has for centuries been known to the natives as rich in gold, and it was exploited in a crude way by the Spaniards by means of arrastres.

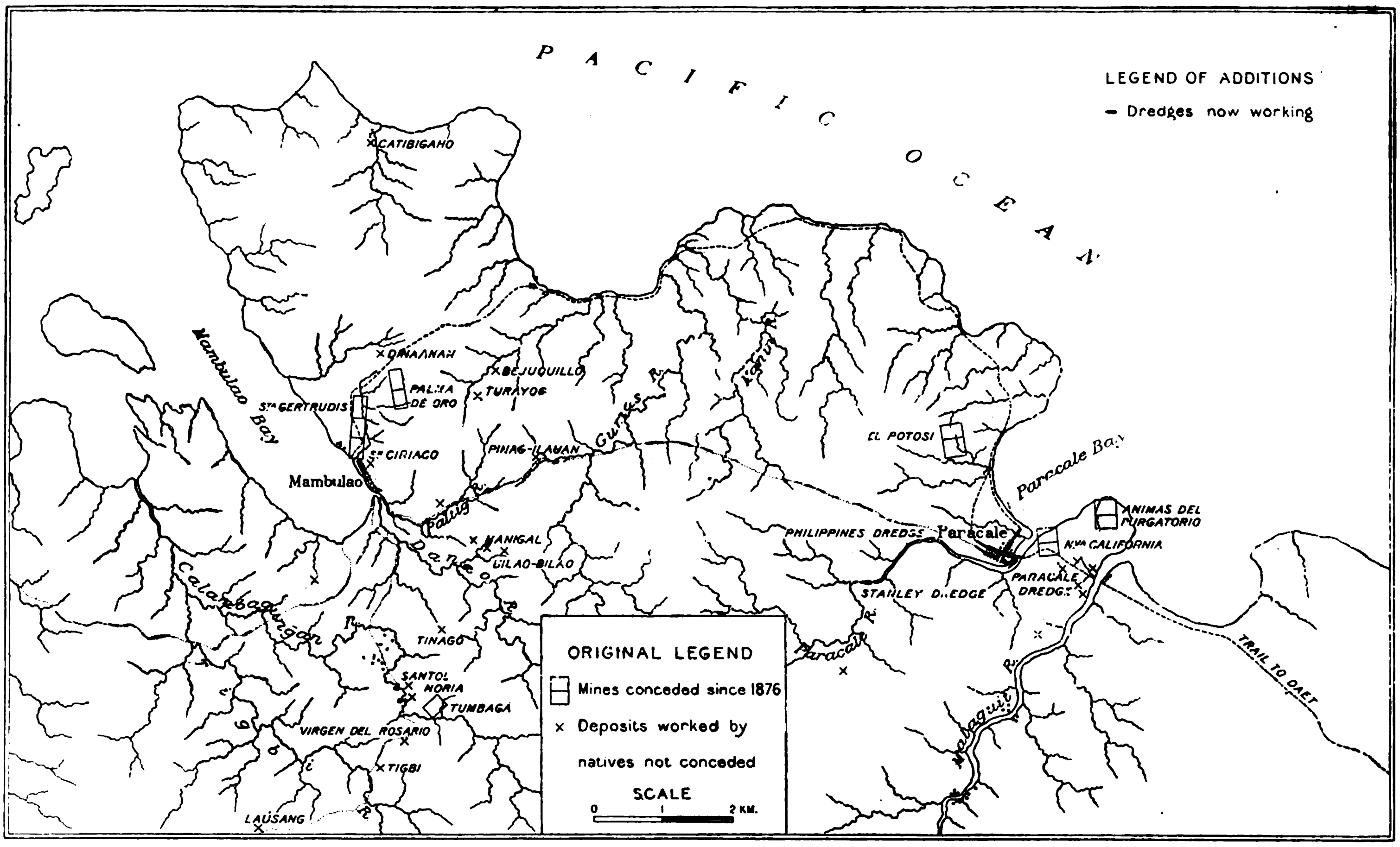
"The first mention of this district of which we have an authentic record was in 1571. Chinese and natives worked the rich streaks and alluvial ground for many years in a crude way, until Spaniards from Mexico taught them to use the arrastre, and a few years before the American occupation nearly a score of these crude appliances were in use in the hills of this district, and small but fairly effective dipper dredges, which could only handle a few cubic meters a day, had been set in operation.

"A large corporation known as the Philippine Mineral Syndicate just before the insurrection had acquired extensive concessions from the Spanish Crown. Operations of modern character were first undertaken on the Tumbaga property.

"This district roughly comprises 400 square kilometers of country of moderate relief. The topography is marked by a number of hills which extend outward as spurs from the cordillera and have approximately a north and south trend. Between these hills are broad valleys to a great extent filled with nipa and mangrove swamps. The whole country is densely wooded. The most elevated point in the district is Mount Bonotan, some 500 meters in height.

"Metamorphic rocks are a prominent feature of this area. The formations to be found are pyroxenite, schist, granite-gneiss, shale, sandstone and andesite from north to south in the order named. The strike of the sedimentaries is roughly north and south and they now stand nearly on end.

"Prior to the Miocene disturbance, which flexed these formations into a more or less vertical position, the section of the strata was probably as follows: At the base a pyroxenite and diorite complex; above this sandstone, shales and possibly limestone, with andesite overlying. With the Miocene uplift came the intrusion of granite, and exposures of the granite cutting across the basic rock can be seen. Along the contact of the two, gneiss and schist were developed. Later on, and probably before the outflow of andesite, there began a period of vein filling and ore deposition. Naturally, the principal deposition took place along the weak zone of the contact and in the fractures adjacent to it. The principal lodes to-day are found normal to this granite-diorite contact. There are many parallel veins running through this granite batholith. The placer deposits are found along the rivers which cut across these veins and are naturally richer near them.




*Courtesy, Bureau of Science.*

**OUTLINE MAP OF PARACALE-MAMBULAO DISTRICT**

Present Operations.—There was only one dredge in operation in this district at the time the last annual bulletin was published, and all the lodes remained practically as the natives and the former Spanish and English operators (the Philippine Mineral Syndicate) had left them.

Mambulao.—A year ago only the ancient workings and those of the syndicate existed in this part of the district, together with a few recent shafts and tunnels driven as assessment work. Since that time two companies, the Tumbaga and San Mauricio, have been preparing for immediate operation.

Tumbaga.—Tumbaga lies some 2½ kilometers south of the town of Mambulao. The ore body is in a brecciated zone between andesite (porphyry) and impure sandstone, or tuff. The trend of the ore body is northeast-southwest. In this there is considerable slate through which innumerable calcite stringers ramify. Some of these stringers have been found to carry free gold; possibly all of the values may be found to lie in these innumerable veinlets cutting the slate. Although the mineralized zone in places reaches a width of 35 feet, this is not constant. The ore body is lenticular.

"Mr. Cavender, the superintendent, has opened up over 100 meters of drifts and crosscuts, most of which is new work, also a shaft over 15 meters deep, and has constructed a drainage tunnel of over 100 meters. He has also, assisted by Mr. Collins, put into working order the old plant of the syndicate, parts of which were missing and the remainder in considerable disorder, so that he was able to make a test run on his ore. The plant as it now stands consists of the following parts: a Blake crusher; a 5-feet Huntington mill, having a capacity of from 12 to 30 tons per day; two Johnson concentrators; besides the usual accessories—boilers, hoisting drums, skips, etc. According to Superintendent Cavender, a trial run of twenty-two hours was made with this plant in November last. Eleven tons of ore were treated, with the result that 93.6 ounces were cleaned up, which represented merely the free milling part of the ore. The concentrates have not been treated. If these figures are correct, and I have no reason to doubt them, this ore contains some very rich streaks, and there may be found to exist a considerable ore body besides of low grade material.

"San Mauricio.—This property is located 1 kilometer from Mambulao on the hill to the north of the town. The ore body is in part a quartz filling normal to the contact between the granite and the basal rock, which here is more nearly a diorite than a pyroxenite. There also appears to be some ore deposition along the contact.

"About 300 feet of drifts and crosscuts have

* Bulletin issued by Division of Mines, Bureau of Science.

been opened up, besides that representing old workings, and extensions made by the present company. Besides this development work, a 20-stamp Traylor mill consisting of the following parts has been erected: 20 Traylor stamps, Blake crushers, Challenge feeders, and 8 Traylor concentrators and a Richard's classifier. The stamps are 1,050 pounds each and it is proposed to have them dropped at the rate of 94 times a minute through a 5-inch drop. This mill, for completeness, general plan, and the way it has been set up, should be a model for future mills in these Islands. In October of this year, a severe typhoon raged on this coast and did more or less damage to all the properties. At the San Mauricio the head frame was blown down, but no other serious damage was done.

"Other lode properties on which development work has been carried on are as follows:

"Dinaanan, north of San Mauricio; the Le Duc property, southwest of Mambulao; and the group of claims known as the Iron King, Gordon, Isla, Guinto, Abe Lincoln, and Navotas, a different property, all a short distance east of Tumbaga. These are all promising prospects.

"PARACALE.—The present operations in this district are confined almost entirely to placers.

"Since our last report, two more dredges have begun operations on the Paracale River above the Paracale dredge. The Stanley dredge, farthest up the river, is a New Zealand model, operated by New Zealanders. The Philippines dredge is a Risdon make and was operated by an American company. The hull for the fourth dredge is almost completed and plans for the fifth are under way. Of the three, the two New Zealand dredges are running steadily, but I regret to say that the third, up to the present time, has failed to secure results and has temporarily shut down. The Paracale Extension is a new company which proposes to work ground farther up the Paracale River above the Stanley.[1]

"Most of the ground on the Paracale and Malaguit Rivers has been tested and staked. However, as yet no operations have been undertaken on the latter. These rivers lie in broad valleys, covered with mangrove and nipa, through which the dredges work their way. The mangrove is used for the firewood and the nipa is either thrown aside or employed by the natives for house building.

A test hole in an adjacent river, which serves to give a general idea of the ground to be dredged, showed the following strata:

From 0 to 1.5 meters, soil, nipa, etc.

From 1.5 to 7.6 meters, sand and gravel, with some values.

From 7.6 to 11.5 meters, heavy black loam, with considerable decayed vegetable matter.

From 11.5 to 12.2 meters, gravel, pay streak

The bed rock is a white, soft, decomposed granite-gneiss.

In some of the localities the bed rock varies in depth from 3 to 18 meters. In the last few months testing parties have been very active; one working along the following rivers: Tabas, Malaguit, Malagbang, Bosignon, Gumaus, Bulalakao, Colombayungon, Tigbi, Maniloc, and Ponso; others have carried on extensive boring in the Malaguit River, one company having put down over 300 holes, and this is only a small proportion of the total. The Paracale River, of course, has been the most thoroughly tested of all the field, but others, especially the Gumaus, have shown up well in the tests.

"The ground being worked by the dredges now in operation is unusually rich, yielding ₱2 per yard, according to the dredge master's sworn statement, and there are several spots where values as high as ₱14 per cubic yard have been reported. It is not likely that such values will be found in all parts of the district, the richness of certain spots being due to the fact that the river cuts across the veins in these places. This can easily and clearly be seen by an examination of the field relations and of the fresh, crystallized gold as it comes up on the dredge. There is not much doubt but that there is much profitable ground and the district can support several more dredges.

"Many may not be familiar with New Zealand dredging practice, so that a few of its essential features, as I have observed them in this district, are here given.

"Both the Paracale and Stanley dredges use the open-connected buckets and have no stacking ladder, but differ entirely in the gold-saving appliances.

"The Paracale dredge has a revolving screen, side tables and table sluices, expanded metal and coco matting being used.

"The Stanley has no revolving screen and no side tables. It has two sluices copied from pattern of the old tail sluices, one being placed above the other. The dimensions of the first are 75 feet by 4.5 feet, those of the second 65 feet by 3 feet and 8 inches, with a fall of 1.5 inches to the foot. The riffles in the two sluices are about the same, and, beginning at the top, are as follows:

"First Hungarian riffles; then California riffles with a few T-shaped riffles; next undercurrent riffles for the fine gold with coco matting beneath; and finally plates with three-eighths inch holes with 1.5-inch pitch with coco matting and expanded metal under all riffles. A 12-inch pump supplies water for the upper and a 10-inch for the lower one.

"An 8-ton, semi-marine boiler provides the steam for a 70 horsepower Marshall engine, which runs the buckets and the 12-inch pump.

"The essential differences between the New Zealand and the American (Risdon) dredge on the river are:

(1) Absence of the stacking ladder.

(2) Absence of a screen and side tables, in the Stanley dredge.

"The dredges have not been working under similar conditions, and hence it is at present impossible to make any comparison regarding the relative efficiency of the two systems. The persons in charge are well aware that changes will need to be instituted to adapt the process of dredging to the ground. Mr. Jones stated that some of the values are being lost, particularly the fine float gold and that which adheres to the black sand.

"The cost of operation per yard is still high, being close to 30 centavos, but the new dredges will embody several improvements as a result of the past experience with the ground, and a diminution may be looked for. One noteworthy feature at present is the difficulty experienced in amalgamating the gold secured by these dredges. The Paracale Company is installing a Huntington mill to treat the large, rich, quartz bowlders which are constantly being encountered.

"LODE PROPERTIES.—Lode properties are not receiving as much attention in the vicinity of Paracale as near Mambulao; nevertheless development work is being carried on the Germania claim in the foothills north of the Paracale River and on the San Antonio and Empire groups on the peninsula between Paracale and Malaguit.

"Even a casual examination of some of the veins on this peninsula gives rise to the hope that a producing mine will before long be located here.

"Just at present the labor conditions in Paracale are not entirely satisfactory. The Camarines coast is but sparsely settled and but little opened up by commerce, but the conditions should improve.

"At Nalesvetan in the cordillera south of Paracale some new prospects are located and are being vigorously developed by a party of Americans. They have reported some fairly rich strikes from there in the last few months."

(1) As this Bulletin goes to press it is learned that the Philippines dredge is being moved to the Malaguit River.

# *THE BAGUIO MINERAL DISTRICT

This subject has been treated in a comprehensive paper by Frank T. Eddingfield, E. M., mining engineer of the Division staff. The district has led in quartz mining and, while there was a falling off in production owing to damage sustained from severe storms, greater activity in development work has been the feature of the year's operations. Mr. Eddingfield writes:

"American miners have been prospecting in Benguet for ten years or more, but only during the last three years has successful mining been carried on by organized companies; previous to that time the veins had been worked by Igorots, Filipinos from other provinces, and Chinese. Some of these old workings are quite extensive, and have been a great help to the prospectors of today in locating the veins. They are similar to the workings found in other parts of the islands where only the rich stringers were gouged out, and are consequently so narrow that an American would find it impossible to go through them.

"One of the drifts in Mr. Kelley's mine cut an old stope filled with waste that had cemented as hard as the wall rock.

"The mineral statistics show production of gold from the district to have been ₱155,520 in 1907, ₱279,600 in 1908, and ₱243,500 in 1909.

"The figures given for 1909 are estimated from partial data, for nine months' work. The production was stopped in October by floods. The same rate of production would have given about ₱320,000 for twelve months

"These figures to a certain extent show the advance of mining in Benguet, but they give no idea of the great amount of work that has been going on in development. It is estimated that about 300 claims have been located and almost 250 veins uncovered. One company alone claims to have found 132 veins on a group of 31 claims.

"The known mineralized district extends from the headwaters of the Antamok on the north to the headwaters of the Batwaan on the south and from Camp John Hay and the Bued River on the west for a distance of 10 kilometers to the eastward, thus comprising an area of about 75 square kilometers. Outside of this area there is much which is believed to be valuable ground, but as yet unexplored.

"The majority of the veins appear to be true fissure veins in andesite. However, this point is open to further investigation. Toward the south and west contact deposits are reported between andesite and diorite, and andesite and limestone. The veins have a general strike of east and west and a dip of about 60°, usually to the south. They vary in width from 0.3 to 6 meters, reaching a maximum of 15 meters in one case. The classes of vein matter are white quartz, crystallized banded quartz, calcite, calcite and rhodochrosite, brown manganese and quartz, mineralized dikes, and brecciated material. The gold content is about 50 per cent "free milling" in most of the veins, but some of them do not pan a color, as in the case of the telluride ore on the property of Mr. Kelly.

"At the present time there are good wagon roads leading to the Headwaters, Consolidated, Bua and Major mines which can also be used by properties near by. The other groups can only be reached by horse trails.

The majority of the properties are so situated that water power can be utilized, but a few will have sufficient water only during the rainy season. The grades are steep so that "gravity mills" can be built, saving expense in handling the ore, and making it possible to have high heads of water with a comparatively short pipe line and flume. The only serious disadvantages are the dangers of floods or landslides, the difficulties of transportation, and the comparative scarcity of timber.

"The labor situation is perhaps better than in any other mining district. Igorots are easily obtainable for surface labor, road building, packing, and cutting timber; Filipinos from

*Bulletin issued, Division of Mines, Bureau of Science.

other provinces for miners and mill men, and Japanese for timbermen and carpenters.

"The average prices, in Philippine pesos, are:

| | | | |
|---|---|---|---|
| Common labor | per day | ₱0.70— | ₱1.00 |
| Miners | do. | 1.30— | 1.70 |
| Native capatas | do. | 1.70— | 2.50 |
| Japanese timbermen | do. | 1.70— | 2.50 |
| Japanese carpenters | do. | 3.00— | 3.50 |
| By contracts: | | | |
| Prospect pits | per meter | | 3.00 |
| Drifting | do. | | 15.00 |
| Timber: | | | |
| Posts 7 feet by 1 foot, each | | | 0.70 |
| Logging 2 to 3 inches by 12 feet, each | | | 0.10 |
| Sawed lumber, per M. feet for labor | | | 45.00 |
| Mining and milling, per ton | | 5.00— | 8.00 |

"Filipinos from other provinces are preferred to the Igorots for miners and millmen. They give steadier labor and are better workmen. Japanese are used as timbermen in some mines because of their greater strength and adaptability.

"The companies now existing are the Antamok Valley Mining Company, Madison Gold Mining Company, Bua Mining Company, Benguet Consolidated Mining Company, Igorot Mining Company, Muyot Mining Company, Major Mines Company, Copper King Mining Company, Camote-Clayton Company, and Kias Hill Gold Mining Company. In addition, the prominent groups of claims are: the Ebert, Topside, Vicente Volpiedad, Lorenzo Pau, McElroy, Calvin Horr, Murphy, Missionary, and McDill.

"The only companies at present producing are the Benguet Consolidated and the Bua.

"The Bua is working two veins at Gomok, one a quartz vein 0.3 to 1 meter wide, the other a rhodochrosite vein 1 to 2 meters wide, striking north 10° east and dipping 65° to the south. The veins have been opened up by drifts for a length of 166 meters and have been cut 33 meters below by a tunnel 200 meters long.

"The ore is mined by the system of overhead stoping, filling with waste broken during mining. The stope extends the entire 166 meters, and has ore chutes every 10 meters. The ore is dumped into a bin near the mouth of the adit, from which it is trammed for a distance of about 1 kilometer to a second bin, which feeds into a two-bucket gravity aerial tramway, stretching across the Antamok Valley to the mill. The mill is run by a water wheel with a rope drive. It consists of six individual stamps in groups of three, with two copper plates. The tailings are cyanided in six sand leaching tanks, and then dumped into the river. The average value of the ore is said to be ₱14 per ton.

"The Consolidated sustained severe losses in the cyanide plant during the typhoon in the preceding autumn and in consequence has reduced its output until the plant can be refitted. The mine had been working a good strong lead which is said to assay from ₱30 to ₱200 per ton. The lead was opened up on four levels 16 to 26 meters apart, the lower levels being reached by a small inclined shaft with a skip and an underground station.

"The usual feed of the mill was 20 to 25 tons per day. The ore was fed to a crusher, then to stamps and amalgamation plates. The tailings were classified and leached by a sand and slime leaching plant. The leached slimes were filtered in a Ridgway vacuum filter. The introduction of a vacuum filter was a pioneer step in the Philippines and will undoubtedly lead to greater activity along the same line.

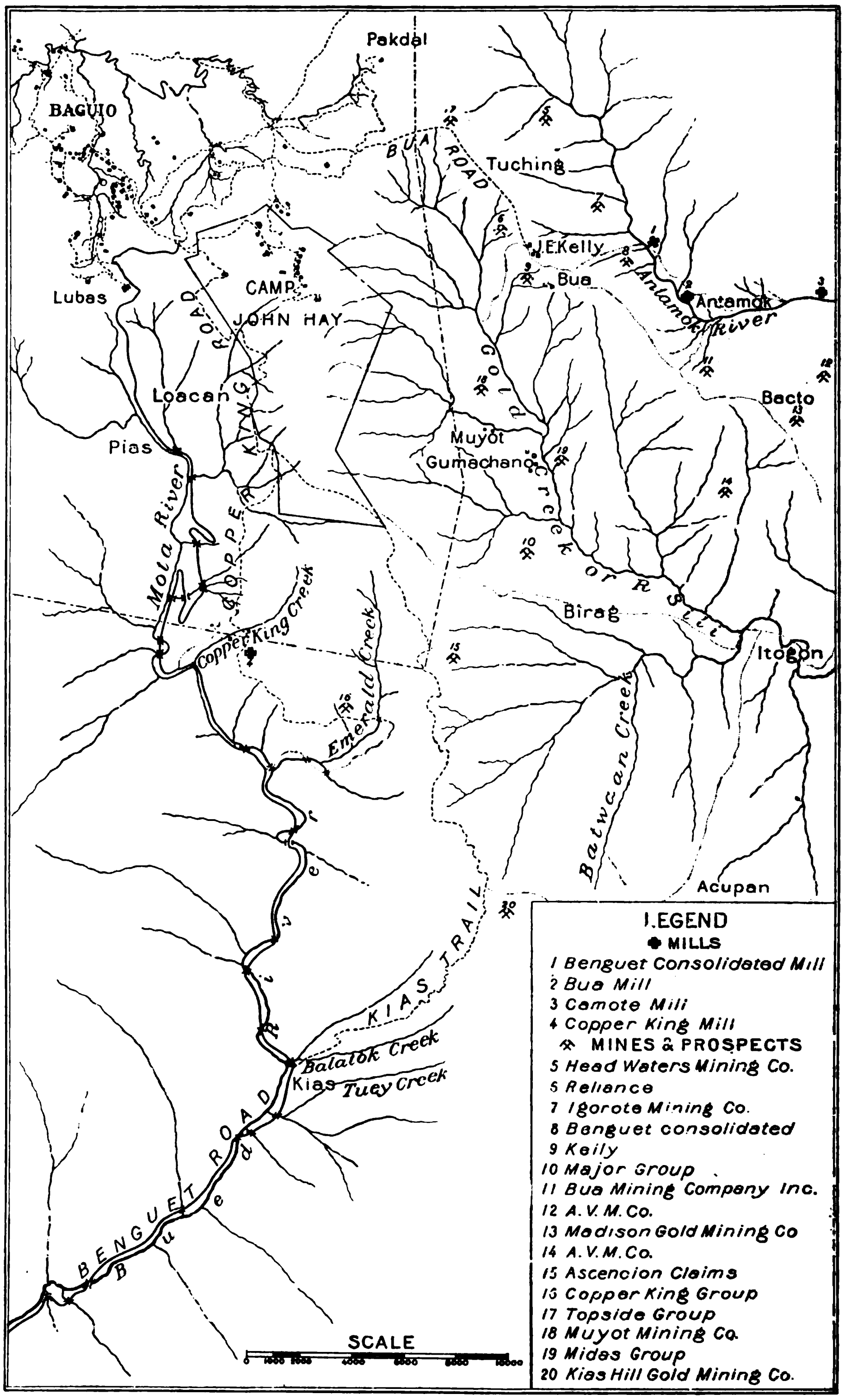
"The Camote is one of the largest ore deposits in the district. The vein is manganese and calcite and is said to average 8 meters in width. A large amount of ore has been developed and 500 meters of working have been driven. It is said to "catch ₱13 on the plates alone." The company lost a 3-stamp mill in the landslide last fall, but they will undoubtedly erect another mill in the near future.

"The Headwaters have put in 1,000 meters of drifts and tunnels, showing four veins which run generally east and west, and dip 45.° They are working 44 men in the mine, 21 on road construction, and are preparing to install a 10-stamp mill, 1,000-pound stamps, tube mills, cyanide plant and a filter press.

"The 'Muyot' has 800 meters of drifts, tunnels and raises in a vein 2 to 10 meters wide said to average ₱12. It is most admirably developed and shows a larger tonnage of 'ore in sight' than any mine in the district.

"The Madison has about 330 meters of work on two veins which are claimed to be the same as the Bua.

"The Topside has 166 meters of work on two veins.




*Courtesy, Bureau of Science.*

**MAP OF THE BAGUIO MINERAL DISTRICT**

"The Copper King has 666 meters of work on four veins, varying from 0.3 to 3 meters. This ore contains lead, copper, and considerable free gold.

"The Kelley group on the north slope has four veins: No. 2, north 60° west, dipping 60° to north; No. 3, south 60° west; and No. 4, north 34° west. If these directions maintain, they will all intersect. The intersection of 3 and 4 has already been opened up. The outcrops of these veins are well marked. No. 1, particularly, shows as a strong, high dike on the bank of a stream. One thousand meters of drifting has been done on the veins which vary from 1 to 3 meters and are said to run ₱24 to the ton. They carry no free gold, but are rich in tellurides. On the south slope Mr. Kelley has cut four more veins with 500 meters of workings. These veins run generally east and west and vary from 0.6 to 10 meters in width. About half of the gold in this group is free milling.

"The Major Mines Company has discovered a large number of veins on their property. The No. 3 vein on the Low Potential claim is most unusual. It is made up of bands of crystallized brittle quartz separated by horses of andesite, and having a width of 1 to 3 meters. The majority of the veins on this property pan very high. When in full operation this company should be one of the largest producers in the Islands.

"The Antamok Valley Mining Company has perhaps the largest holdings in Benguet. They

have made a large number of tunnels and cut some very promising veins.

"Lorenzo Pau is working 12 claims; Vicente Volpiedad, 6 claims with two or three good leads. Calvin Horr has done a great deal of work proving up several good leads, one of which is 3 meters wide, and is said to carry ₱16. The Camote-Clayton, McElroy, McDill and the other properties all have more or less work done. Some mills are already being erected in the southern part of the district.

"The great number of veins, their uniform directions and dip are significant facts. A peculiarity of the district is that the veins often occur in groups of four.

"The great need of the district is a large mill adapted to the character of the ore, then mining can be done on a sufficiently large scale to make it economical, and there will be enough tonnage in the mill to reduce the cost of treatment. An output doubled means a gain of almost 80 per cent in clear profit. Furthermore, a mine taking out and milling 150 tons a day economically would do much toward bringing in the right kind of capital to the Islands.

"As yet the mineral deposits of the Philippine Islands have only been scratched, and only ore close to the surface taken out. If these districts were found with as favorable locations in the United States, there would not be the slightest delay in establishing an exceedingly active camp in every one of them."

# THE AROROY MINING DISTRICT

This district, situated in the northwest part of the Island of Masbate, is made the subject of a paper by H. G. Ferguson, A. M., geologist of the Division, in which he covers the geographical and geological features of that region. Referring to the cost of operations he states that conditions are favorable to cheap mining, the topography allowing considerable exploration by adits, and the ore easily treated. Timber is generally available on the claims and labor supply fairly satisfactory. The important mines are situated less than three kilometers from an excellent harbor and within one day's run by steamer from Manila. He submits the following figures on cost:

"Through the courtesy of the various miners of the district, I am able to give the following figures, in Philippine currency, for exploration and development works:

| | Cost per foot. | |
|---|---|---|
| Tunnels | ₱4.00 | ₱8.00 |
| Raises | 6.00 | 12.00 |
| Shafts | 12.00 | 30.00 |

"Small open cuts, from ₱0.03 to ₱0.06 per cubic foot.

"Mr. Eveland, formerly superintendent of the Eastern Mining Company, states in his report on the property as follows:[1]

"Although but few figures are available for the cost of operation of mines, mills, and of ore treatment, under the conditions in the Philippines, it can safely be said that ₱10 ore can be handled on this property at a profit and anything above that will be clear gain. There are no difficulties locally in the way of economic handling of material; in fact, conditions on the ground may be considered almost ideal for operation on a large scale, when extent and value are proven.

"Certainly, a company operating on a sufficiently large scale and conservatively managed should be able to mine and treat ore at this figure or better. The ore is peculiar in that only a small per cent can be amalgamated, probably because of the large proportion of manganese oxide which it contains. Tests made by different laboratories in the United States showed from 25 to 33 per cent of the values recoverable by amalgamation, and it is very probable that in actual practice this would be further lowered. On the other hand, a large proportion is readily recoverable through cyanide treatment, tests made both in this laboratory and the United States show the ore to be remarkably well adapted to this method.[2]

"Work in the Aroroy district has been going on for a sufficiently long time to build up a class of fairly efficient miners, and at present the local supply is sufficient for the demand.

"The wages paid in the district are: For miners, laborers and muckers, ₱0.60 per day if food is furnished, or ₱0.80 without food; foremen, blacksmiths, etc., from ₱1 to ₱2 per day.

"During the next two years, when several companies start operations on a large scale, there may be a temporary shortage of labor, but I do not expect any permanent trouble from this cause, as men are beginning to come in of their own accord from northern Panay and Sibuyan and there should be no great difficulty in importing other labor if it becomes necessary.

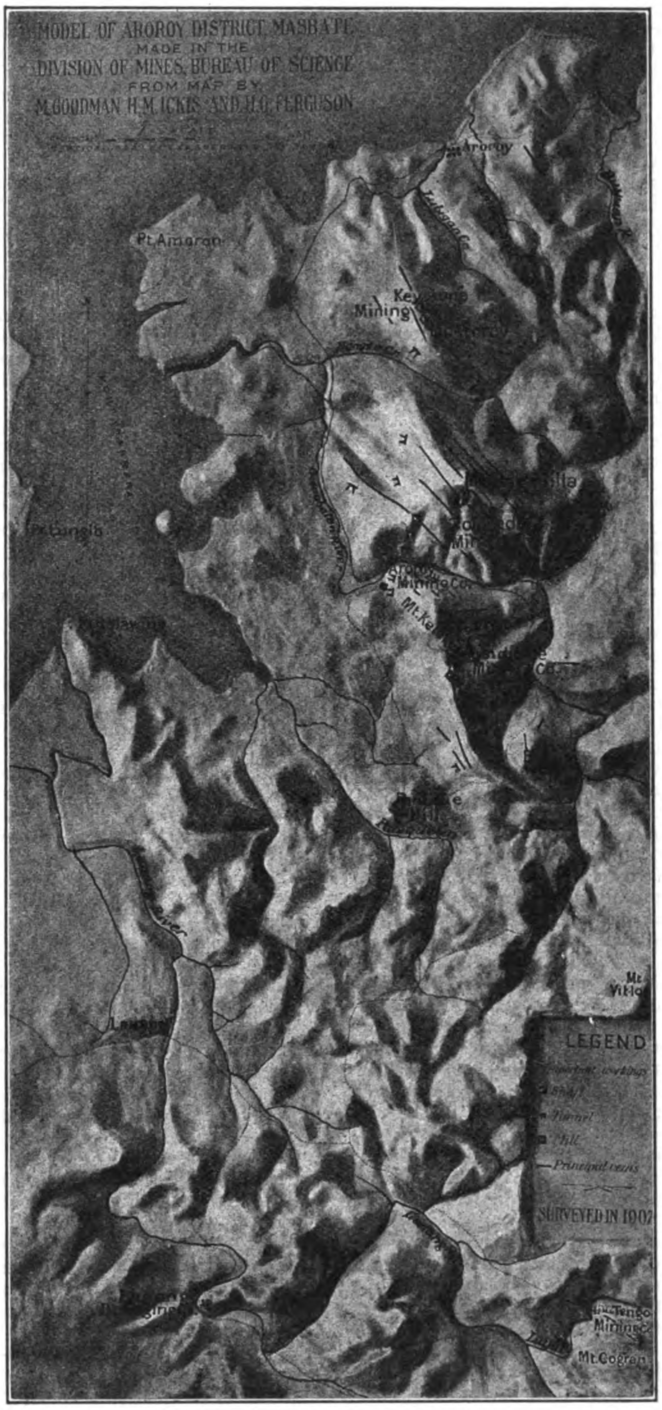
Mr. Berkenkotter, the manager of the Syndicate Mine, tells me that under average conditions nine men working three to a shift six days in the week, and doing their own mucking, can advance a tunnel 1 meter per day in porphyry and one-half meter per day in hard, fine-grained rock.

Reviewing the history of placer mining in Masbate Mr. Ferguson says:

"In 1905 a dredge belonging to the Oriental and Masbate Dredging Company, was put on the Guinobatan River below the gorge. However, no exact prospecting or testing of the ground had been done, and the dredge was unable to reach bottom. The returns were small and the dredge did not run for more than a few months.

"The dredge constructed on the Lanang River has had numerous difficulties, including severe damage to a pontoon by a typhoon, and has been idle since 1908. The ground is now being thoroughly prospected and if results are favorable it is probable that the dredge will be rebuilt. A promising field for placer mining which has not as yet been much prospected is the gravel beach lying up the stream from the first gorge of the Guinobatan.

"DEVELOPMENT WORK.—The following is a brief summary of the more important work done in the district up to December 31, 1909. The Keystone Mining Company on Aroroy




*Courtesy Bureau of Science.*

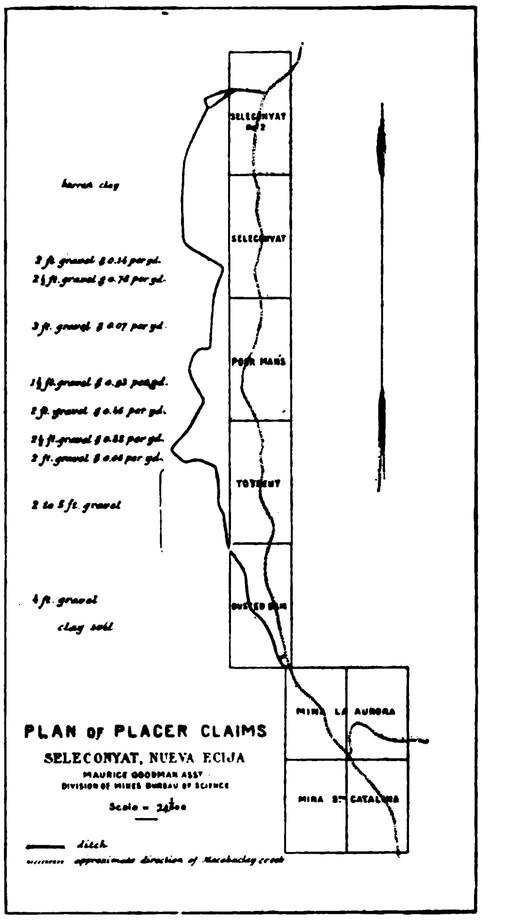
**RELIEF MAP OF AROROY DISTRICT.**

(1) FAR EASTERN REVIEW (1907), 3, 333.

(2) Mr. Eye, superintendent of the Colorado Company, plans to do away with the plates entirely in the 20-stamp mill which that company is preparing to erect and have the stamps crush in the weak cyanide solution.

Mountain has two shafts in ore. These are connected by means of a drift, and a crescent tunnel from the southern side of the hill to meet the upper shaft is being advanced. The principal workings of the Colorado Mining Company consist of two adit levels connected by an inclined shaft in the foot wall 60 meters deep. From the second level there are foot-wall winzes. Crosscuts have been made at intervals on both levels. The Syndicate Mining Company, operating the claims of the Eastern Mining Company on Kalakbao Hill, has done development work on three claims. The earliest extensive work, on the Have Got claim, consists of a crosscut tunnel now caved at the surface, a raise to the surface and drifts. The Nebraska Star has a crosscut tunnel 60 meters long, a raise 30 meters to the surface, and 150 meters of drifts on four veins, and about 50 meters of crosscut levels; on the upper a crosscut tunnel cuts two veins and there are drifts, crosscuts, and a raise to the surface. The Aroroy Mining Company was organized last year and has taken over four groups of claims, including the property of the former Gold Bug Company. Operations so far have been rather in the nature of prospecting than of development. Considerable work has been done in constructing prospect tunnels, open cuts, etc., on the Gold Bug, California, El Sol, Montana, Gilt Edge and other claims. The Tengo Mining Company, successor to the former Mount Cogran Company, has begun development work in a systematic manner. The vein is now being crosscut in several places, and when sufficient ore has been blocked out, the mill will be put in shape for use.

"Taken altogether, the district at the close of the year 1909 is in a more satisfactory condition than it ever was previously. This is the first time for several years that no production has been reported, but that of former years was premature and the gold was obtained at great expense. If the work in the district continues on the lines now being followed, production should begin again in another year, and it should not be long before several large and profitable mines are operating."




# * THE GOLD PLACERS OF NUEVA ECIJA

"The gold placers of Nueva Ecija have not received much attention, although they have been known and worked for sixty years or more by foreign capital.

"It is reported that a Spaniard, fifty years ago, worked placer ground at a point about halfway between Cabu and Peñaranda on the Sapang Bujoy. A map of Luzon, by D'Almonte, published in 1883 has marked upon it six points in this district where gold had been found, one on the Sapang Bujoy, two on the Macabaclay, two near the junction of the Rio Chico and the Sumagbac, and one near the head of the Santor or Cornell River. No further information about these points could be found; but these publications indicate that gold must have been produced in noticeable quantities.

"An Englishman about 1890 did some work near the head of the Cabu River at Bakas. At that time also, a company was formed in Manila which started work on the Macabaclay with a crude sluice. Its operations were terminated by the insurrection of 1896 and no more work was done until Mr. Dorr, who had been employed by this company, resumed work in 1905. His operations are fully described in Mr. Goodman's report.[1] Very soon after Dorr's return two miners, Neill and Brown, worked the ground near the head of the Cabu, but with little success.

"No other records of work done by white men previous to 1909 could be found; but natives have worked the gravels for ages by hand panning and hundreds of them at present have no other occupation. They resent the influx of Americans and do not try to conceal their dislike. Their attitude recently has been so hostile that precautionary measures were taken by the Constabulary in the district.

"A number of men from Manila this year have formed a company and located claims on almost every stream between Cabu and Gapang. They tested the ground near Peñaranda with a boring machine and will undoubtedly test many more of their holdings in the near future. These boring tests were reported as showing 33 centavos per cubic yard. Pan tests in other localities gave much higher values, ranging from 50 centavos to ₱1. Such ground when worked on a suitable scale will give good returns on the money invested.

"One of the most interesting features in all parts of this region is the presence of platinum in small quantities. The natives were ignorant of its value and always threw it away when they separated it in their pans.

"The area in which paying amounts of gold can be found is very large, extending from the Eastern Cordillera to the Rio Grande de Pampanga, between the Santor River and a line 6 miles south of the Rio Chico, about 600 square miles. There is a bed of sand and gravel which seems to cover this entire area, possibly produced by constantly shifting streams. This explanation of the origin seems more probable because of the great number of streams which seem to head from about the same source in the eastern Cordillera, and all of which carry gold even to their mouths. These streams are the Rio Chico, Ilog Muntí, Sapa Palanao, Cornell or Santor, Mayon, Macabaclay, Pagsanjan, Calabasa and Cabu, which flow into the Rio Grande.

"Assuming the Eastern Cordillera between the head of the Cabu and the Santor to be source of the gold, then similar placer ground probably occurs on the eastern slope of the mountains as well, possibly on the Ibonan River. This possibility has never been thoroughly investigated, partly because of the warlike people, termed Mambulaos and Ibilaos, who live in the hills surrounding. This assumption regarding the origin differs from that made by Mr. Goodman, who placed the source of the gold in the Caraballo Sur. A layer of clay called a "false bottom," which overlies another bed of pay ground, is located underneath the gravel bed which carries the gold. The total distance to bed rock varies from 8 to 13 meters in general, but near the head of the Cabu it is very small and in a great many places the water has cut through and worn a channel in the bed rock. A mining man from that point reported the bed rock to be lava. Mr. Goodman discusses this in greater detail.

"Black sand is found everywhere in large quantities, and its presence might prevent the successful exploitation of a great part of the ground.

"Mr. Neill, who has worked the ground near the head of the Cabu, found it necessary to clean up his riffles once every three or four hours. Further down, however, the percentage of black sand diminishes, and the ground near the mouth of the Cabu, and at Peñaranda is considered very promising. Mr. Neill states that the gold floats on the water and a large percentage is lost; and that because of its physical condition it will not amalgamate unless altered by some preliminary treatment; besides this, the clay is very troublesome and necessitates considerable washing. These difficulties might be overcome, but a great one would be encountered in the wrecking of a dredge which might be washed away by floods, or typhoons, which occasionally occur and from which there is no apparent protection. Furthermore, during the dry season most of the streams are practically without water, so that good dams would have to be built to hold the quantity which does flow.

"In other respects the district is well situated for dredging. It is near a railroad so that supplies can be readily obtained and it is near good forests where suitable timber for construction can be found."

*"Other Districts (Gold).*—Mr. Eddingfield furnishes the following reports from other sections of the islands where locations have been made:

*"Catanduanes.*—Interest has lately been revived in the gold deposits of this island. Prospectors from the Paracale district have recently visited and explored it, reporting very favorably on the prospects. They found evidence of former mining by Spaniards or natives in the northern part, and this is usually an indication of rich deposits. Some placer ground was also found which might prove to be profitable. Coal deposits were also reported.

*"Ilocos Norte.*—One prospector, Mr. Burdette, has located a gold vein east of Bangui and is at present exploring and developing it. So far no rich deposits of gold have been found in this province, which heretofore has been known chiefly for asbestos, manganese, and guano.

*"Mindoro.*—Mindoro has been explored by several prospectors during the last few years, and a company was once formed to work some of the ground. Placer deposits are found on the west and north coasts, some of them are said to be suitable for sluicing. Very little is known of the geology of the interior of this island.

*"Mindanao.*—The country around Surigao for several years has been prospected for gold at intervals and recently two miners worked some ground for a short time, with fair returns. The placer ground is said to be very good and the gold very coarse, but conditions have been unfavorable and prospecting in the interior dangerous. Several prospectors are at present again testing the ground.

"Placer ground has long been known near Cagayan de Misamis on the Cagayan, Iponan, and Pigholugan Rivers. Old Spanish reports of 1877 speak of these localities. Recently two parties have been relocating the ground and testing it with boring apparatus.

*"Pangasinan.*—For the past year or two the copper deposits of western Pangasinan have been neglected by prospectors as their energies have been directed toward the gold deposits in the eastern part of the province near Binalonan and Pozorubio. Manila capital has become interested in some of these prospects and it is the intention to develop them.

*"Tayabas.*—Two prospectors, Messrs. Bode and Villiger, have located a number of claims near Guinayangan. They state that they have found several good gold-bearing veins and a large area of placer ground. The gold brought from these placers is fairly coarse and of a good color. This district is directly opposite Paracale, across the tail of Luzon and may be in the same mineral belt.

*Excerpt from paper by F. T. Eddingfield, E. M., Mining Engineer, Division of Mines

(1) FAR EASTERN REVIEW (1907), August.

# *THE MANCAYAN-SUYOC DISTRICT, MOUNTAIN PROVINCE

"The deposits of Mancayan, as is the case with all the others in the Philippine Islands, have been worked for years past by natives, in this case by Igorots, possibly by Chinamen, and to a very large extent by Spaniards.

"The natives extracted the copper from the ore by a laborious process, and manufactured most of their cooking utensils from it. They also became quite expert in making counterfeit copper coins which were used even after the Americans took possession. The Spaniards worked out huge rooms and cavities in the Santa Barbara mine, taking out only the very rich ore found in stringers and pockets, which ran from 40 to 60 per cent of copper. This ore was smelted in crude furnaces at the mine; probably less than 50 per cent of the copper in the ore being recovered.

"These deposits at the present time, at the points opened up, seem to show the characteristics of a quartz-prophyry in one case and an andesite in another, both of which have largely been replaced by silica, fractured by subsequent action and enriched along the fissures thus made with secondary copper, which may be supposed to have come from a copper-quartz vein somewhere in the formation.

"There appear to be three bodies of ore varying from 18 to 150 meters in width. These bodies run parallel and only about 100 meters apart; they can be traced for about 4 kilometers on the surface in a northwest-southeast direction from the foot of the hill north of Mancayan to Pocta Creek and beyond. Pocta Creek cuts the three veins which stand out with great distinctness above the bed of the stream. It is here that the character of the deposits is best seen.

"The values are unevenly distributed throughout the bodies. In one case a strip 40 meters wide on the eastern part of the ore body carries 2 to 3 per cent, while the remainder of a total width of 130 meters is barren. Another section has about 2 per cent for its entire width of 130 meters.

"The Santa Barbara is the only property on which mining has been done. From 2,000 to 3,000 meters of tunnels and drifts has been driven in this deposit by the Spaniards and the American successors to the property. The Spaniards must have taken out several hundred thousand tons of ore, working only the rich stringers and pockets. These stringers contain tetrahedrite, bornite, luzonite, chalcopyrite and some oxides. The stringers vary in width from a few centimeters to over a meter in some rare cases, and strike at an angle of almost 30° to the main body, although one or two veins lie parallel to it.

"There are five levels embracing a vertical height of over 60 meters. The lowest of these, the drainage tunnel, has over 300 meters of development. A crosscut in the north end exposes some very rich ore in what appears to be a rather large pocket. Small stringers are also found at various other points on this level. This point is emphasized because of a contrary statement which appears on page 51 in *Bulletin No.* 4 of the Mining Bureau, by Mr. Eveland, who was unable to reach all parts of this level on account of the condition of the drifts.

"Some claims, owned by Mr. Gaffney, lie to the north of the Santa Barbara. He has done about 500 meters of development work on seven of these claims, exposing some very good low-grade ore. In the "Oriental" claim he has cut 20 meters of ore.

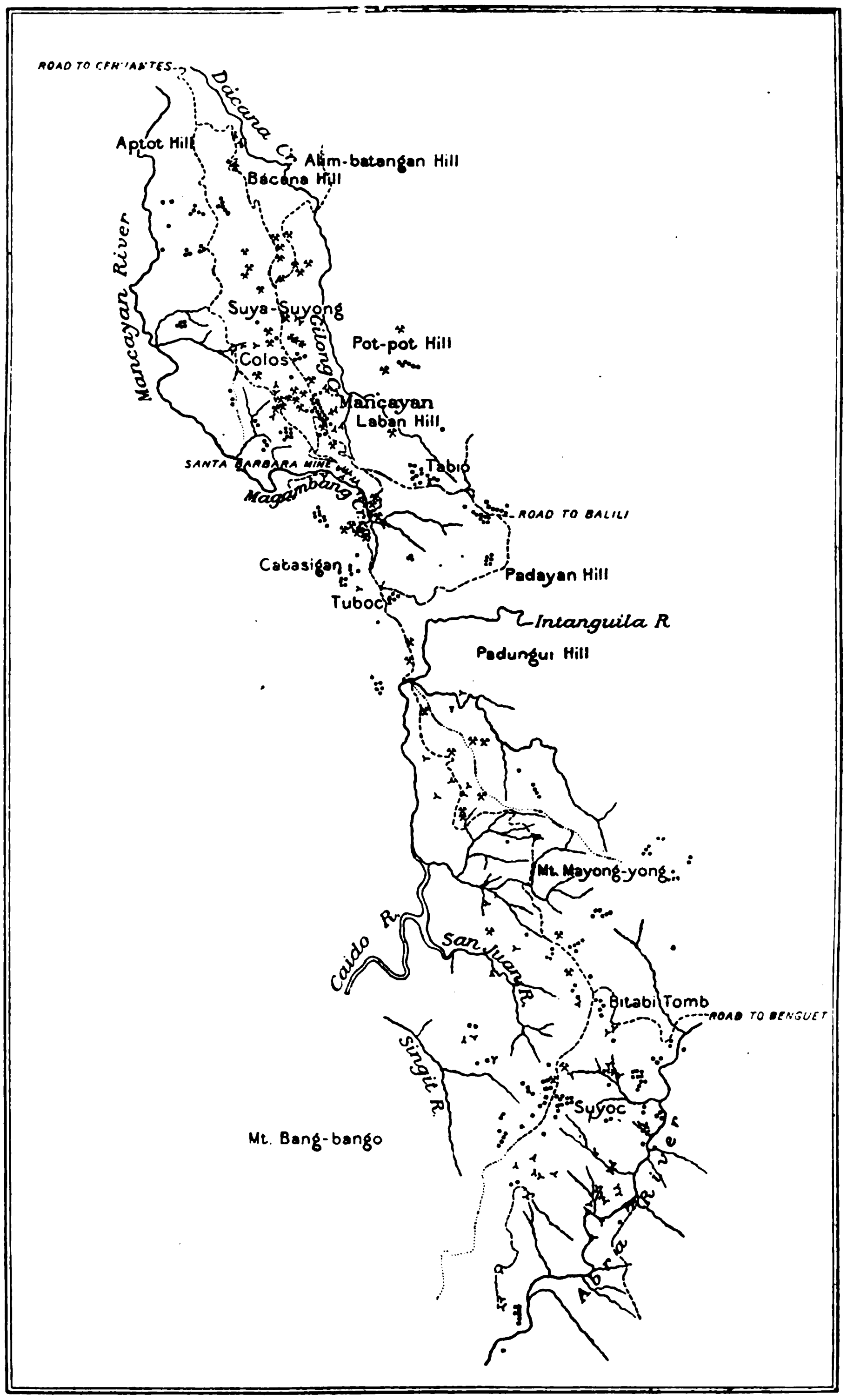
"South of the Santa Barbara are properties owned by Messrs. Chambers, Muller, Wright, and Pettit on which more or less work has been done. Messrs. Chambers and Muller have cut an ore body 160 meters wide, said to carry 2 per cent of copper, which appears to be the central body of the three. Some work has also been done on the outcrops on Pocta Creek. South of this but little copper has been found.

*By Frank T. Eddingfield, E. M

"Numerous veins which carry gold, silver, and some copper occur at Suyoc. They are in general true fissure veins with quartz filling, 1 to 6 meters wide, occasionally having stringers of calcite along the walls, and they are said to carry from $10 to $50 per ton in gold alone. The gold appears for the greater part as a telluride, but it occasionally is found free, and associated with zinc, lead, copper, iron, and manganese.

"The values which are encountered in stringers of rich ore could readily be concentrated. The 'Elizabeth,' 'Anaconda,' and 'Quien Sabe' are all properties that show great promise.

"The ore, both copper and gold, seems to call for concentration and smelting by, the usual class of mill and smelter suitable for the purpose. Cyaniding might be used with the gold ores, although their high copper content seems prohibitive.




*Courtesy Bureau of Science.* **MAP OF MANCAYAN-SUYOC DISTRICT**

"The veins are found in conglomerate, in diorite, in andesite, and in andesite-breccia. The fissuring seems to have occurred after the formation of sedimentaries and was probably caused by the intrusion of the Bagan granite which lies to the west

"The Mancayan copper deposit will be workable by quarrying for a great many years, but the gold veins will need to be mined in the usual way because of their width. However, the work should be cheap since so great a depth can be reached with drifts or tunnels "

# *PHILIPPINE COAL

After nearly a decade of prospecting and preparation under the new régime, including a number of false starts, two coal mines are now in operation in the Philippine Islands. These are both situated on the small island of Batan, Province of Albay, Luzon.

Coal in the Philippines occurs with Tertiary shales and sandstones on nearly every island of the Archipelago, with the greatest development in the Visayas. The coal is classed as sub-bituminous. The highest percentage of fixed carbon yet recorded is in a sample from the old Compostela mine in Cebu, 54 per cent. The coal is invariably low in ash It has been found satisfactory for ordinary steaming purposes when burned on proper grates and with care in firing. The seams range from a few centimeters to 4 meters in thickness. They are usually, with the exception of those on the eastern part of Batan, inclined at all angles up to the vertical and are more or less faulted. The roof as a rule is firm and the cleats are good. The most favorable mining conditions so far found are on the eastern end of this island.

The principal localities in the Archipelago are as follows:

| Location. | Province. | Island. |
|---|---|---|
| Batan Island | Albay | |
| Sugod Bay | Albay | Luzon. |
| Near Compostela<br>Near Danao | Cebu | Cebu. |
| Polillo Island | Tayabas | |
| Cataingan<br>Dimas Alang | Sorsogon | Masbate. |
| Bulalacao | Mindoro | Mindoro. |
| Silay River, Sibuguey Bay | Moro | Mindanao. |

Coal was first discovered in the Philippines in 1827 on the Island of Cebu, the nearest approach to a successful coal mine during the Spanish régime being on that island. In 1904 the United States Army began development work on the western end of Batan Island, and in the fall of 1905 work was started on the East Batan Coal Company property. It is understood that operations will soon be resumed on the old properties near Compostela and Danao, on the east coast of Cebu. Vigorous exploration was recently begun in the eastern portion of Masbate Island but in the other localities little is being done at the present time.

Coal in Albay Province.—The coal industry in the Philippines has now passed beyond the stage of prospect. Development and production have begun.

Development work will soon be renewed on the old Spanish properties near Bacon in Sugud Bay. The coal seams should easily and profitably be worked in that locality, as very little indication of extensive disturbance appears on the surface.

The only present coal production is from the mines on the Island of Batan, off the Albay coast. The Cebu properties remain in about the same condition they were in at the beginning of 1909.

The United States Army Coal Mine.—This mine is located on the west end of the island at Liguan (see map). Approximately 2½ kilometers of galleries, including entries, headings, crossholings, rooms, etc., have been opened up; these are confined to three principal seams, of which the uppermost at present furnishes the coal This seam, outcropping at an elevation of 60 meters above sea level, is 1 meter thick; it is dipping at an angle of 45° to the northwest.

The two longer ones are 40 feet apart and are, respectively, 1.54 meters and 1.33 meters in thickness. The measures at No. 4 entry on the upper seam, which is at present being used, are marked by a coarse grit or conglomerate full of quartz pebbles, both above and below the coal. This occurrence has not been noted in the coal measures on the eastern end of the island. His coal is quite firm and is superior in appearance to the Japanese coal sold in Manila. Recent steaming tests show it to be better for steaming.

As was predicted in 1905, a number of small faults and rolls have been encountered. From my recent examination of the mine I do not think that these are so serious as to make the operations unprofitable; but it is clear that the mining of coal on this end of the island will call for the most experienced engineering ability.

Since our last report 198 meters of new dockage and a 2,000-ton bin with double tracks connecting it with the dock have been built.

The output with hand labor varies from 60 to 80 tons a day. This, however, is not regular.

During the past year 6,000 tons were taken out and supplied to various vessels of the Army and Navy.

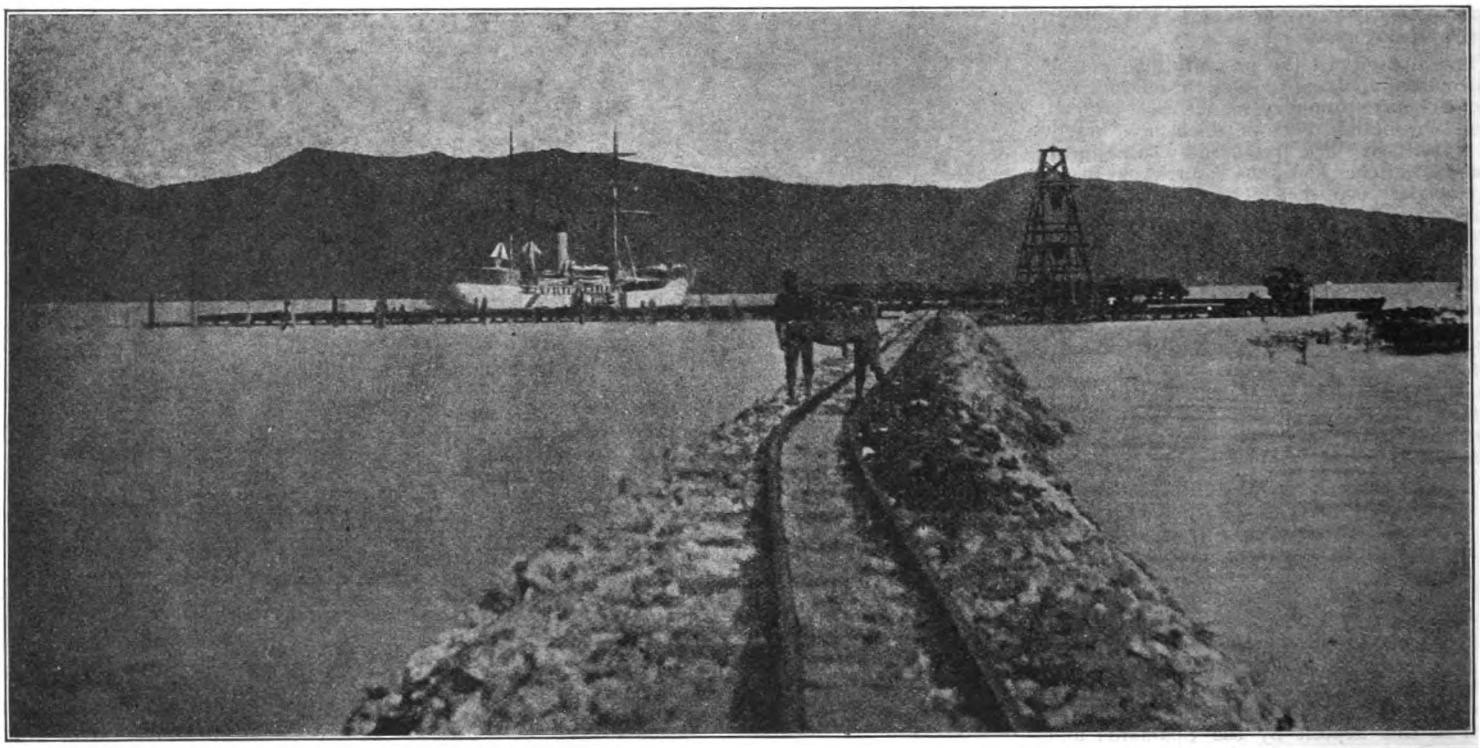
The East Batan Coal Company.—A number of changes and improvements have been made at this mine.

The most important is the abandoning of the old and wasteful Japanese methods. With the arrival of Mr. Davy, a man experienced in underground work, the mine is being rapidly put into up-to-date condition. The old method of working to the dip and robbing the ribs has been abandoned. It has been found that after the first 30 centimeters of the roof scales off, the rest stands with only a row of props, so that henceforth an immense amount of timbering can be avoided. This roof has a tendency to arch itself, and it is quite likely than even props in the haulage-ways can be dispensed with.

Since our last report 883 meters of new track have been laid, connecting the mine with a new dock on which a very ingenious loading tower which travels on a track the whole length of the wharf has been erected. The tram cars have side doors, by means of which the coal is emptied into the loading bucket which is hoisted up to the required chute. There are four of the latter from which the coal slides into the ships' bunkers. The superintendent plans to change this system so that the tram car itself will be hoisted, thus obviating one handling of the coal. This loading tower is 14.5 meters high. The bucket holds 1 ton. The tram cars have a capacity of 2 tons. Other improvements are the digging of a new sump in the mine and the installation of an Emerson pump with a capacity of 757 liters a minute. A new 70-horsepower boiler is also being installed.

There are in all 6,096 meters of galleries, the main entry 295 meters at an angle of 15°, but 40° off the dip.

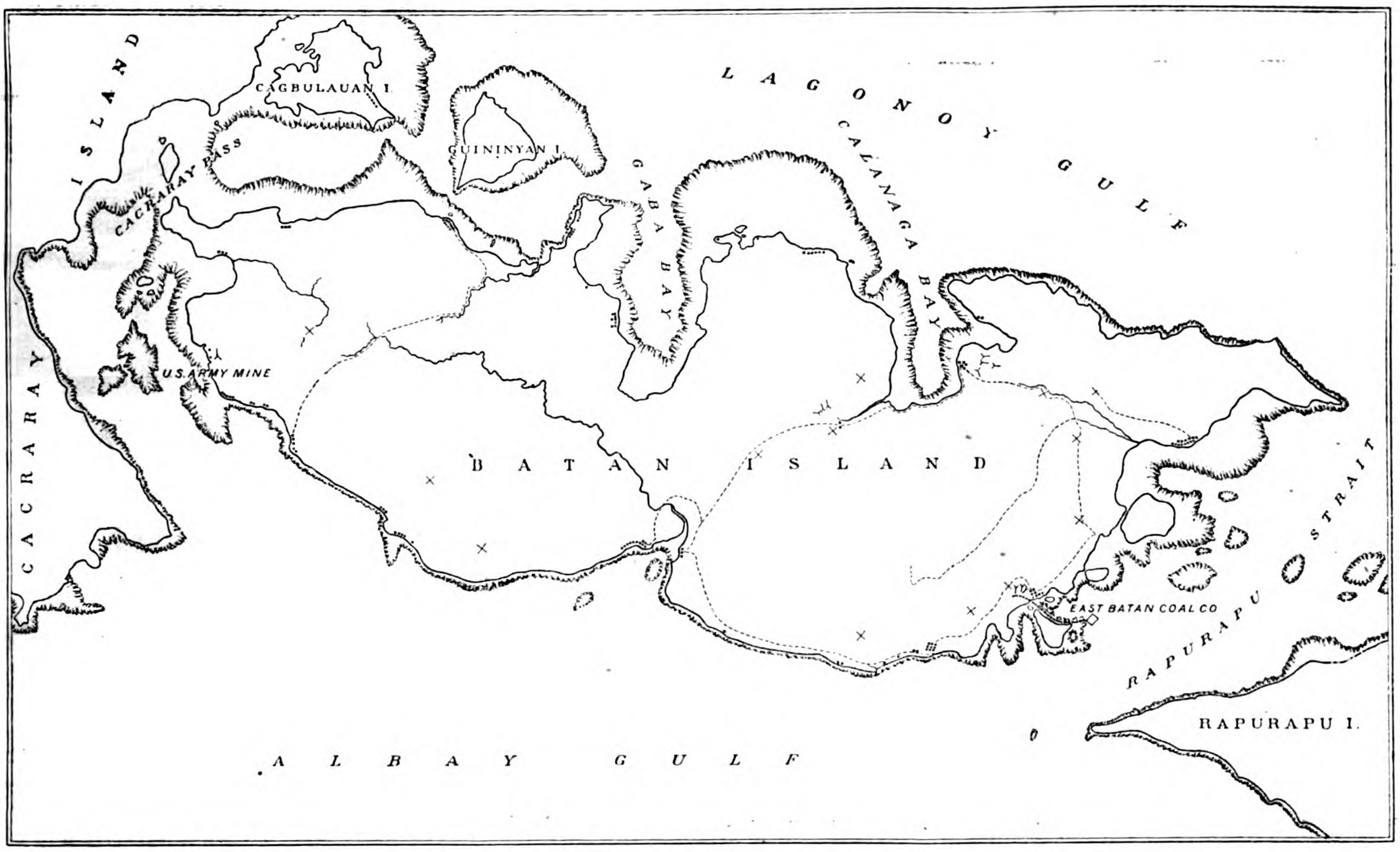
Although the production is not regular the average output is now 150 tons a day; when the present changes have been completed this will be increased to 200 or 250. It should be remembered that as yet no machines have been used. Mr. Daniels, manager, contemplates the installation of compressed air drills, mule



*Courtesy Bureau of Science.*

THE NEW DOCK, EAST BATAN COAL CO., BATAN

* By Warren D. Smith.




*Courtesy Bureau of Science.* **MAP OF BATAN ISLAND.**

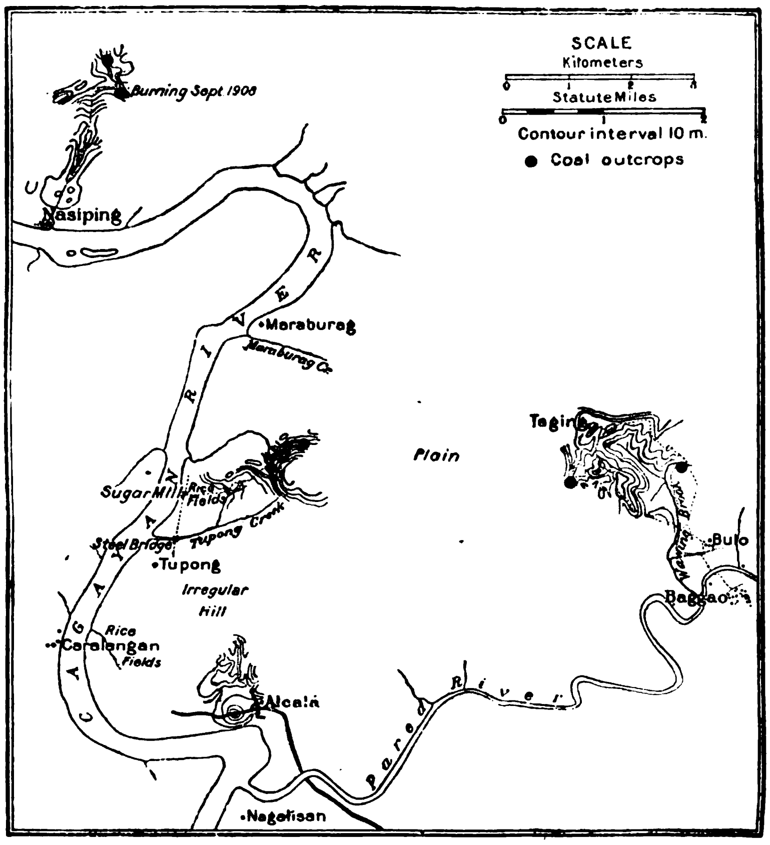
haulage, electric lights, and a number of other improvements within the year.

The coal pockets which the Civil Government proposes to erect here have not yet been constructed. They will be a very desirable addition to the plant.

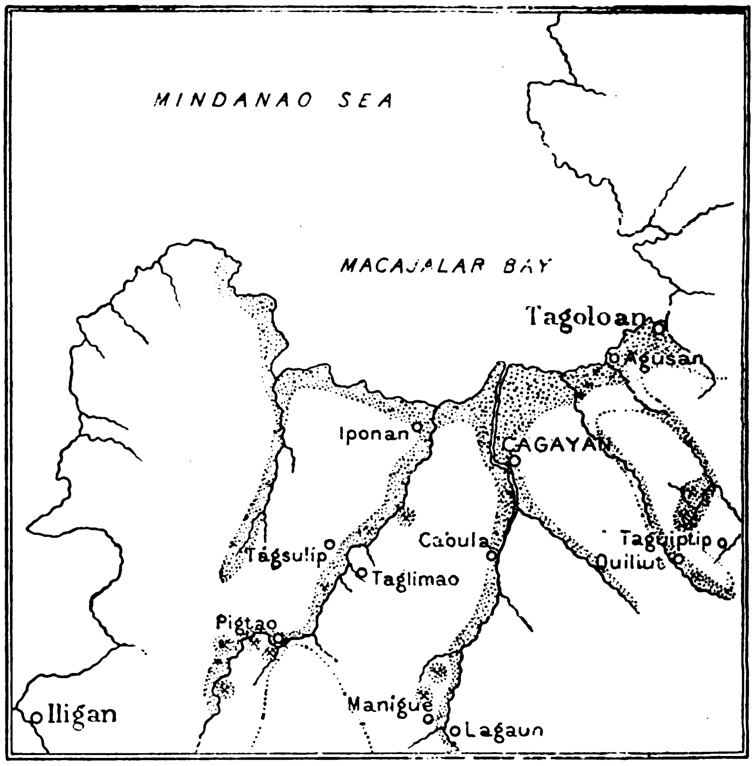
The conditions for economical mining on this end of the island are very favorable. The coal seam now being worked is 1.7 meters thick and is perfectly uniform, seemingly without a trace of faulting and only a slight tendency to roll. It has fine face and butt cleats, so that there is no need of powder, nor has any accumulation of gas been noticed. If more efficient labor could be had the conditions would be ideal for long-wall mining. The method employed now is the "room and pillar."

This company as it is now organized with Mr. Daniels as general manager and Mr. Davy in charge of the underground work has every reason to expect a successful future. One shipment of coal from this property has recently been sold in Hongkong and another in Singapore. Tests on the briquetting of this coal will shortly be made by the United States Geological Survey at its Pittsburg office.

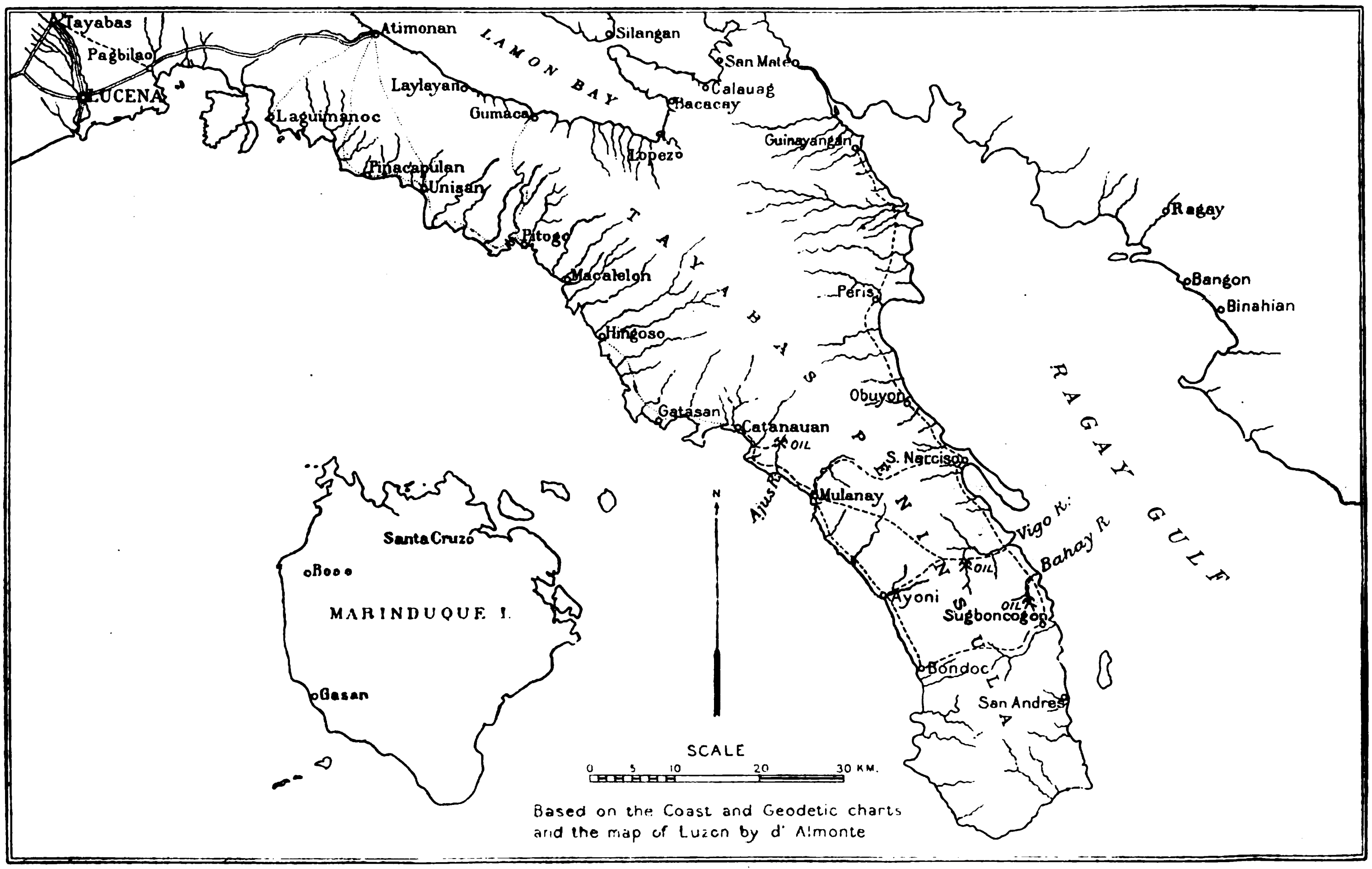
*Courtesy Bureau of Science.* **RELIEF MAP OF COMPOSTELA COAL FIELD, CEBU.**




COAL OUTCROPS IN CAGAYAN VALLEY

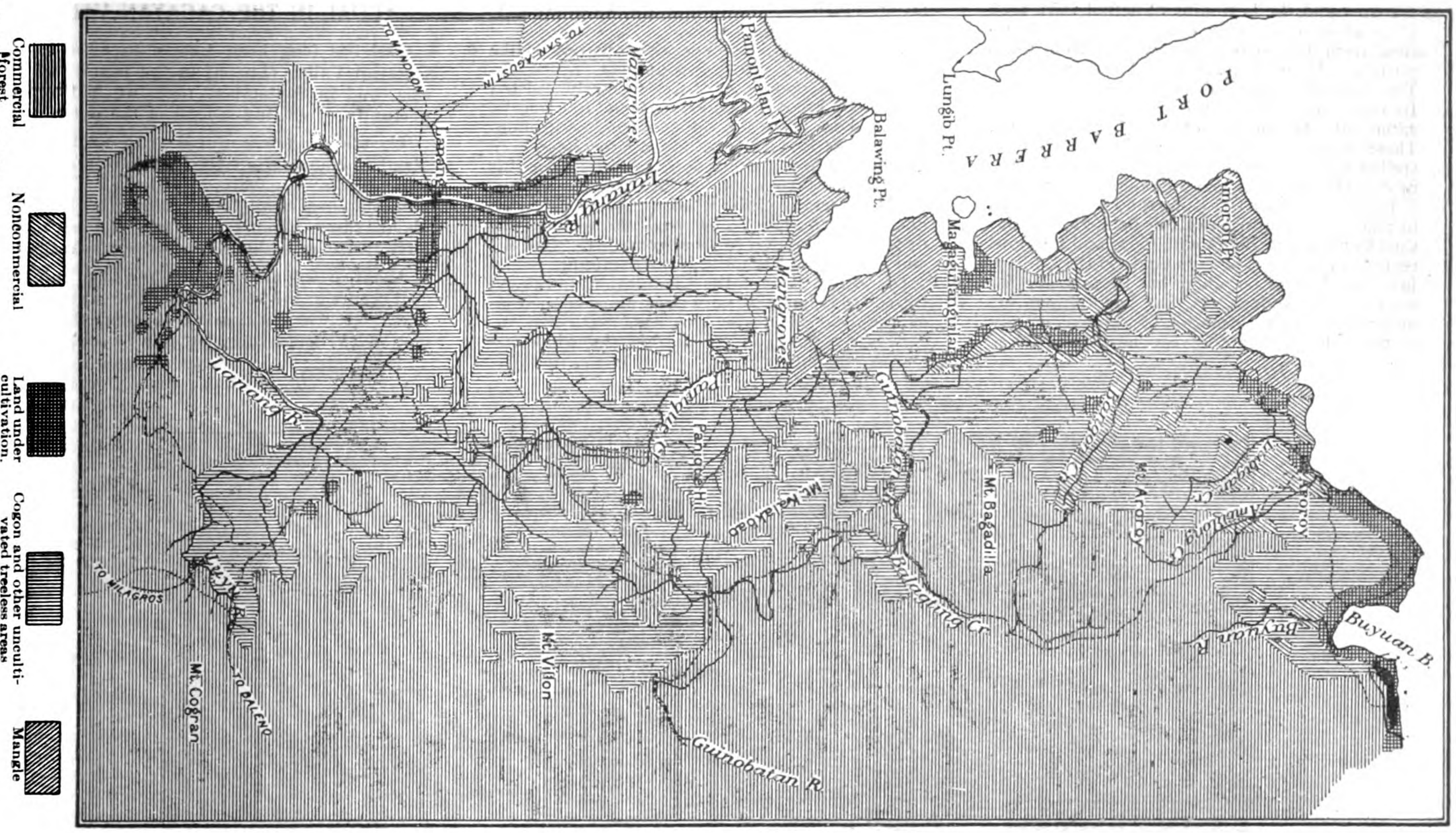



PLACER DEPOSITS IN MISAMIS, MINDANAO



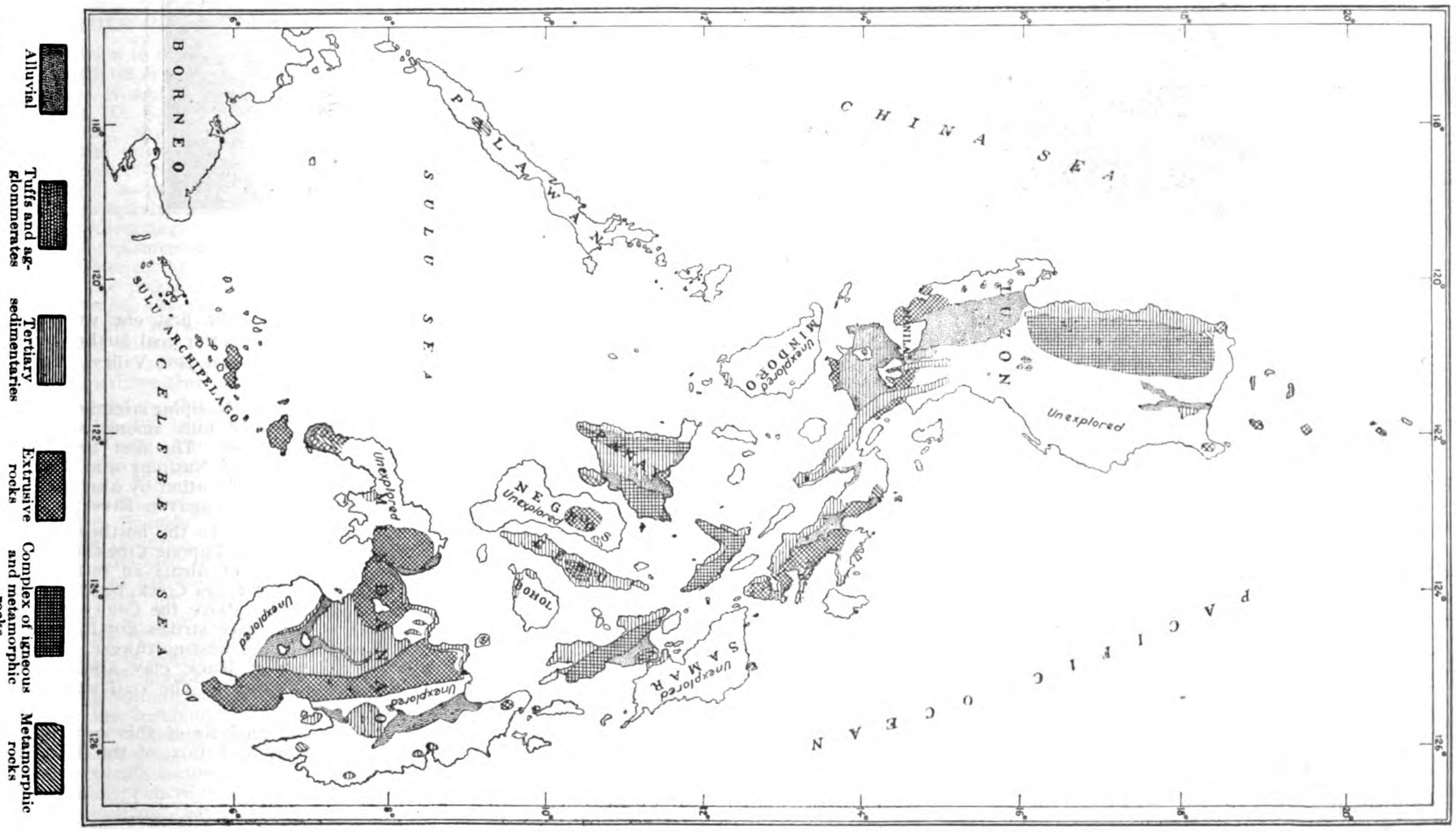

Courtesy Bureau of Science.

MAP OF TAYABAS PENINSULA




Courtesy Bureau of Science

FOREST MAP OF THE AROROY MINING DISTRICT, MASBATE




Courtesy Bureau of Science

GEOLOGICAL MAP OF THE PHILIPPINES

**Coal in Cebu.**—The geology of the Island of Cebu was summarized by me in my paper on this region published in 1907.[1]

The complete history of the discovery of coal and operations in Cebu is given by Mr. Burritt in "The Coal Measures of the Philippines"[1] which is a compilation and translation from the Spanish records, a brief summary will therefore suffice for this bulletin.

Coal was discovered in Cebu in 1827. The first concessions in the Compostela-Danao region were solicited by Isaac Conui in 1871. A wagon road was built from Cot-cot cove to the workings at Dapdap in 1877. The formation of the association known as the Sociedad Nuevo

[1] *Phil. Journ. Sci., Sec. A* (1907), 2, 377.

[1] Report to the United States Military Governor in the Philippines. Washington, 1901.

Langrea and the beginning of actual work took place about 1890. The construction of a tram-road from Danao to Camansi, and from Compostela to Mount Licos, was undertaken in 1895. The Spanish-American war in 1898 occurred. In this year all the concessions in this district came into the hands of Mr. Enrique Spitz. These have changed hands again and are controlled by the Insular Coal Company, which is now in the field carrying on exploratory work.

In 1907 and 1908 two companies were engaged in vigorous exploration of this field, the Insular Coal Company in the Mount Licos and Camansi region and a New York syndicate in the Cumayjumayan Valley, but there has been no further work. It is understood that negotiations are under way for the formation of a large company to mine this coal in the very near future.

WORKING FORCE OF THE EAST BATAN COAL CO.

The district is one in which the geology is very complicated, but not more so, it is believed, than in the other coal-bearing areas of the Archipelago. It certainly has some features possessing advantages over other parts of the Island of Cebu, where coal may be found in almost all parts.

During the last year Mr. Mitkaiwicz, in one locality in the Minanga Valley, did some development work. A sample taken by myself from the dump was found to form a not very firm coke.

COAL SEAMS.—The three fields at present being developed are rather limited, but amply sufficient for a considerable production of coal. A very conservative estimate of the possible tonnage would be 2,000,000 workable tons in the Cumayjumayan Valley and two to four million in the combined Mount Licos and Camansi fields. The coal seams are inclined at angles from 30° to 90°. There is evidence of considerable minor faulting, but probably none which will seriously affect mining operations. Five coal seams are known, at least three of which should be profitable, two of these are over 3 meters thick in one part of the field. The following beds were encountered at Mount Licos, from west to east, that is from lowest to highest:

(1) The "Carmen;" thickness 1.60 meters, strike northeast-southwest, dip 30° southeast; 40 meters interval.

(2) "Esperanza;" 50 centimeters, strike the same as above, dip the same; 9 meters interval.

(3) "Enrique Abella;" thickness 1.20 meters, strike north 23° east, dip 40° to southeast; 40 meters interval.

(4) "Pilarica;" thickness 1.40 meters, strike north 23° east, dip 30° southeast.

Over 300 meters of drifts formerly existed at the old Licos workings. About 100 tons of coal, taken from the "Esperanza," "Ramoncita," and "Enrique Abella" galleries have been on the dump for three or four years. In this time the coal has not taken fire, nor has it "air-slacked" very greatly, good signs for its handling and storing. The coal throughout the district is remarkably free from dirt, "butter" and "bone" and is quite low in sulphur.

Dr. A. J. Cox, of the Chemical Laboratory, Bureau of Science, has discussed the composition of the coal in various papers.[1]

LABOR.—Labor conditions on the whole are good in Cebu and in the Compostela-Danao district the natives have more or less familiarity with underground work, gained by experience of a score of years under the tutelage of the Spaniards. The present wage in this field is 40 centavos and subsistence for the outside laborers, and 50 centavos for the underground men; however, of late the Insular Coal Company has found it best to pay by the foot in drifting. The price per foot will of course vary according to conditions. The Philippine Railroad Construction Company has found the native labor to be very satisfactory. In their work thousands of natives were used at a wage of 50 centavos and subsistence. The subsistence was arranged for by contract with a Chinaman.

TRANSPORTATION.—The new railroad from the city of Cebu to Danao, a distance of 32 kilometers (20 miles), is completed at this date. From Danao to the Camansi workings is a distance of about 8 kilometers (5 miles) with a rise of 75 meters (250 feet). There is now a tram-road over this course, an heirloom from the Spanish régime; but this will need to be replaced by new rails and more clearing will have to be done before any extensive work is undertaken. The transportation problem in the other parts of the district will not be so simple, and I believe overhead cables or inclined planes will be found to be necessary.

[1] *Phil. Journ. Sci., Sec. A* (1906), 877; (1907), 2, 41; (1908), 3, 91, 301; (1909), 4, 171.

## *COAL IN THE CAGAYAN VALLEY

Coal has long been known to exist in the Cagayan Valley (Luzon) in the vicinity of Alcala, and in September, 1908, we had an opportunity of visiting several of the outcrops.

The first of these is near Baggao, a small town about 10 kilometers up the Paret River, a stream joining the Cagayan at Alcala. The coal outcrops in a small brook called the Wawing, about three kilometers north of the town. Here the seam is about a meter in thickness.

About 2 kilometers west of this outcrop, coal occurs in the bed of a small stream flowing north. It was not possible to gauge the thickness of the seam here, but in all probability it is no greater than the first one we visited. There is said to be better coal farther up the Paret River in the San Jose Valley, near the barrio of Taytay.

To the northeast of Nasiping stretches a range of low, grass-covered hills among which the coal beds are located. The first bed visited lies north 35° east of Nasiping and 2.5 kilometers distant; the elevation by aneroid being 95 meters above the Cagayan River.

About 2 kilometers to the northeast of the steel bridge across the Tupong Creek and about 4 kilometers north of Alcalá an outcrop was found in the bed of Tarya Creek, barrio of Maasin, and 45 meters above the Cagayan River. The coal at this place strikes north-northeast and dips 30° to the west-northwest. Directly above is a layer of black clay and below a lighter colored variety. The coal seam is but 0.5 meters in thickness.

The following analysis of this outcrop coal was made by Dr. A. J. Cox, of the Bureau of Science:

| | Per cent. |
|---|---|
| Water | 19.3 |
| Volatile combustible matter | 38.8 |
| Fixed carbon | 30.3 |
| Ash | 11.6 |
| Total | 100.0 |

*By Warren D. Smith, Ph. D., Geologist and Chief of Division.

# JAPAN IN KOREA

The annexation of Korea by Japan, made effective August 29, is the outcome of the policy initiated with the military occupation of Korea at the outbreak of the Russo-Japanese war and confirmed by the Treaty of Portsmouth which gave Japan predominance in Korean affairs. A Resident General was appointed in an advisory capacity and a reform of the administration was begun in 1905. Greater powers were extended to the Resident General by agreement in 1907 and he inaugurated a policy of reform followed by a program designed to develop natural resources by encouraging industry and opening up roads and railways throughout the country.

Hampered by incapable Korean officials a reorganization of the various departments was necessary. Capable Japanese officials were appointed to direct affairs where Koreans failed to carry out the proposed reforms. As a result of this weeding out the Resident General's report for 1909 shows that 2,090 Japanese officials were appointed 466 to important positions and 1,624 to subordinate offices, while 3,030 Koreans were retained, 801 to the more important and 2,229 subordinate. It has been the policy of Tokyo to give the progressive Koreans the greatest possible participation in Korean affairs and to direct the energies of the administration to encouraging material development.

The new reform measures, sanctioned by the Korean Emperor in November, 1907, and which were carried out under the direction of the Resident General, are as follows:

"1. That the sovereign and his subjects should co-operate in pursuance of a national policy leading to reform and progress.

2. That encouragement should be given to agriculture, commerce and industry in order to promote the country's welfare.

3. That order should be strictly maintained and long-standing defects eradicated, with a view to the successful realization of the great work of regeneration.

4. That the welfare of the people should be promoted by improving the internal administration, and that justice should be meted out to all by establishing a new judicial system.

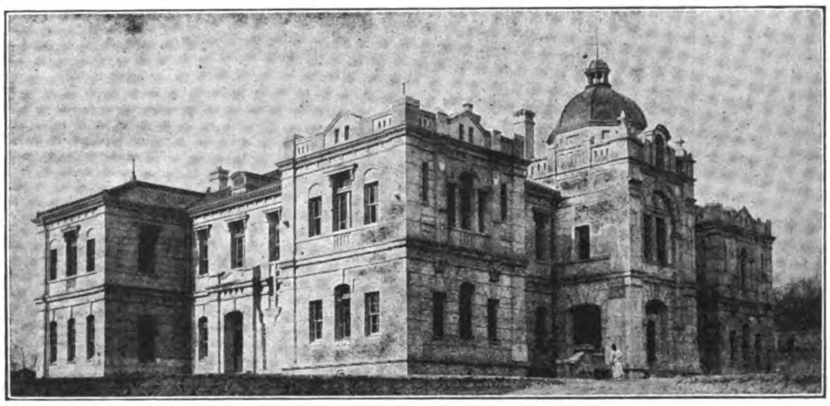
5. That talented persons should be carefully sought out and appointed to suitable posts.

6. That in educational matters, attention should be paid to practical, rather than theoretical, instruction, to meet the urgent needs of the country."

A census, taken in 1906, placed the population at approximately 9,750,000 and, in 1908, there was a foreign population of about 140,000, of which 127,000 were Japanese; 12,332, Chinese; 464, American; 153, British; 87, French; 33, German; 14 Russian; and the balance scattering. The area is estimated at about 90,000 square miles of which about 9,000 square miles are cultivated.

According to the report of the Resident General for the year 1908-09 yen 32,594,119 represented the expenditure for the year paid out of the Imperial Treasury for the administration of the office which included the maintenance of thirteen local residencies, the Railway Bureau, Patents Bureau, Communications Bureau, the Appeal Court of Japan in Korea, and the Forestry Undertakings Bureau. For the years 1906, 1907 and 1908 in all the sum of yen 61,501,861 and for the next five years the sum of yen 19,682,623 will be provided by Tokyo annually to maintain Korean finances. The only income received is that from the Railway and Communications, but they were far from covering expenses up to the end of 1908-09.

In all, during the three years covered by the report, yen 31,876,604 were expended on railways and yen 6,746,437 on communications.



NEW CABINET BUILDING AT SEOUL, NOW OCCUPIED BY FINANCE DEPARTMENT. REPRODUCED FROM THE RESIDENT GENERAL'S REPORT

*The Oriental Development Company.*—Special reference is made in the recent report of the Resident General to this company which was organized with a capital of yen 10,000,000 in 1908 and opened its office in Seoul on January 28, 1909. Of the capital stock the Korean Government subscribed 14,000 acres of paddy fields and 14,000 acres of upland in exchange for stock to the value of yen 3,000,000 and the balance with the exception of yen 470,000 reserved were offered the public with the result that 36 times the amount floated was subscribed for. Besides the subscribed capital, the Japanese Government has authorized the company to issue bonds to the amount of ten times the paid up capital and guarantees them to the amount of yen 20,000,000 Besides this the Japanese government has granted the company an annual subsidy of yen 300,000 until such a time a dividend of 8% is earned.

The purpose of the company is to engage in and encourage activity in agriculture in Korea. To encourage Korean and Japanese settlers to take up land, furnish funds necessary to aid them and supply them with equipment

EXPORTING CATTLE. QUARANTINE STATION IN FUSAN

---

If we consider the poor quality of the coal and the thickness of the seams, together with the distance from Manila as well as the scarcity of labor, it will be seen that this coal probably will never become available for the Manila market. However, there is no reason why the river steamboats could not save a large part of their coal bills by using it mixed with Australian, and it might be possible, if developments should show improvement in quality and continuity of seams, that steamers calling at Aparri would find it profitable to take part of their coal at that port instead of at Manila.

### OTHER INTERESTING PAPERS

In addition to the previous articles contained in the Bulletin is an extensive resumé of "Miscellaneous Nonmetallic Products" by George I. Adams, D. Sc., Geologist, and Wallace E Platt, A. M., Mining Engineer of the Division, with special reference to the prospect for the manufacture of cement in view of the annual importation to the value of over ₱1,500,000 and to the activity of the Bahay Oil Company in its prospecting work in Tayabas. This paper is supplemented by additional notes on the same subject by Warren D. Smith, Ph. D., covering the presence of asbestos, glass sand, graphite, mica and talc, mineral waters, abrasives, tripoli, navaculites, ochers, gypsum, pyrites and sulphur. There is also a paper on Cyaniding in the Philippines by C. M. Eye, E. M., superintendent of the Colorado Co.

"Geology of the Philippine Islands" by Warren D. Smith, Ph. D., and an excerpt from the "Report of the Auriferous Deposits of the Second District of the Department of Mindanao, Misamis," by Enrique Abella y Casariego, former chief of the Cuerpo de Ingeni ros de Minas under the Spanish Government, translated by Warren D. Smith, Ph. D., from the Spanish report as published in 1877 in Vol. VI of the Boletin de la Comision del Mapa, is included together with an interesting excerpt from the Report on Forest Conditions of Aroroy, Masbate, by H. N. Whitford, forester, chief of the Division of Forest Investigation, Bureau of Forestry, with map by Fred L. Pray, forester, Division of Administration, Bureau of Forestry, the Bulletin concluding with an Abstract of the Philippine Mining Law by H. G. Ferguson, A. M., and directing attention to the severe provision of certain sections, one of which prohibits the location of more than one claim on a lode, another requiring that the annual labor to the value of ₱200 shall be performed on each claim, and the section having reference to the development of coal me sures that requires the payment of from ₱.50 to ₱100 a hectare within one year after filing of claims and that filing must be done within 60 days, after the date of location. Recommendations have been made to Congress for remedial legislation to overcome these hardships and favorable action is expected.

taking produce in return. Money advanced to original settlers is required paid in 25 annual instalments. This company has now been operating for some time and indications point to success.

*Road Construction.*—In 1907 the Japanese Government made a loan to the Korean government of yen 19,682,623, redeemable in six years and known as the First Public Undertakings Loan which was made available to assist in the increased expenses of reorganization. Of this amount yen 1,500,000 was made available at once for road construction and a program including the construction of four roads covering a distance in all of 162.5 miles. Of this 37.5 miles were completed in 1907; 66.5 in 1908 and the balance in 1909.

TIMBER RAFTS IN THE YALU RIVER
*Reproduced from Resident General's Report*

In 1908 a fund of yen 702,987 was made available for the construction of seven additional thoroughfares covering in all a distance of 118.5 miles. All these roads have been surveyed and at the end of the year 1909, 10 miles were open for traffic and the balance were expected constructed by the end of the present fiscal year.

All this work is of a substantial character and the roads are designed to cover the main traffic and to serve as models for the feeders undertaken by local administrations. Besides the provincial activity, yen 87,100 were spent in city improvements in Seoul in repairing and improving streets and bridges.

*Korean Railways.*—The average daily mileage of railway, according to the report for June, 1910, was 641 miles which represents unusual activity in the construction of railway lines since 1906 under the direction of the Japanese. Operations are confined to the Seoul-Fusan line and the Seoul-Wiju with their connections. In March, 1909, the reconstruction of the Seoul-Wiju progressed to a point where regular service for 200 miles north was inaugurated to connect with the Seoul-Fusan. Since that time the reconstruction has been completed. The reconstruction for the Masan line 25 miles in length was concluded in March, 1908. The construction of the Yalu River bridge is expected completed by the end of 1911. It is 3,100 feet in length consisting of twelve spans of 200 and 300 feet each, one of the latter being in the middle to accommodate shipping on the Yalu. This bridge is the connecting link between the Korean peninsular line and the Antung-Mukden. It will cost, when completed, approximately yen 2,000,000.

In the work of reconstruction and repair of these lines, including the reduction of grades, the elimination of sharp curves and the substitution of permanent bridges for the temporary wooden structures, approximately yen 95,000,000 were spent up to the end of the year 1909. It will be remembered that these lines were hastily built for temporary military purposes by the Japanese during the war and necessarily were very crooked and poorly constructed. Seventy-five pound rails have replaced the 60 pound, the maximum grade reduced from one in thirty to one in one hundred and the minimum curve to 20 chains radius from 10 chains radius.

The accompanying map from the Resident General's report on railway postal routes indicates the principal lines. Seoul is the center and from that point the Seoul-Fusan, 300 miles in length, crosses the peninsula in a South-Western direction and connects with the channel ferry steamers connecting Fusan and Shimonoseki and Japanese lines to Tokyo. With the extension of the Fusan-Seoul 309 miles northward by way of Anju to Wiju on the Yalu river constitute the main line of the peninsular. The branch lines include one connecting Seoul and Chemulpo; the Masampo branch connecting that point with the Seoul-Fusan near Fusan and the Pying-yang branch of the Seoul-Wiju connecting Pying-yang with the port of Chinnampo.

Unusual activity has characterized the work of railway construction in Korea under Japanese direction and there is no doubt that the present transportation facilities would have been greatly delayed and very probably never inaugurated had it not been for Japanese intitiative.

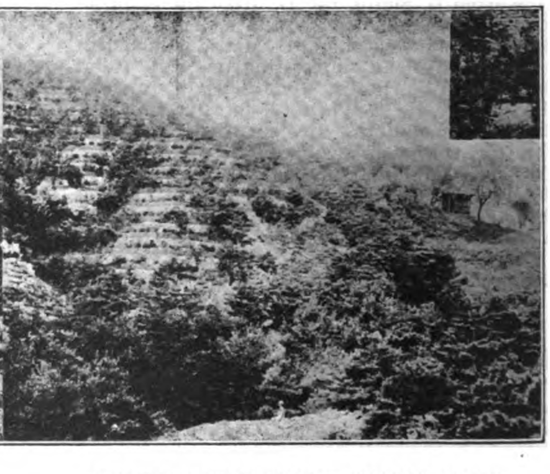
*Telegraph and Telephones.*—The extension of the long distance telephone and the telegraph system has been one of the features of progress in intercommunication under Japanese control. At the end of 1909 there were 200 public telegraph offices open in Korea against 86 in 1906 and the length of wiring increased from 5,895 to approximately 7,100 miles, while the public telephone offices were increased from 13 to 64 during the same period and the wiring from 832 to 5,500 miles.

*Harbor Improvements.*—The total appropriations for harbor works since 1906 amount to approximately yen 5,000,000 and included the development of thirteen harbors in Korea. Fusan, Chemulpo, Chinnampo, Wonsan, Chyongjin, Kunsan and Seoul are the most important.

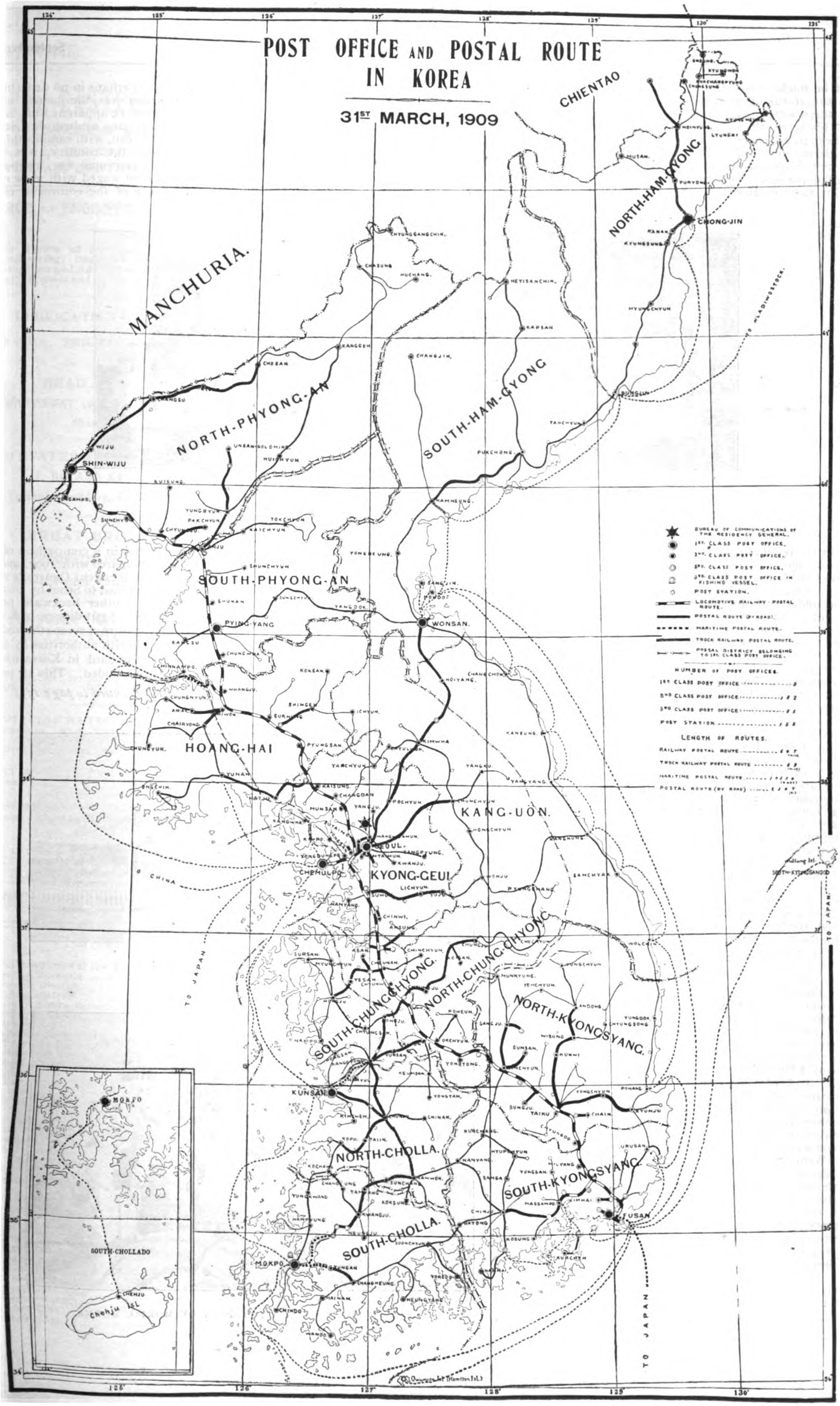
An appropriation of yen 1,441,000 was made for Fusan alone and of this work 60% was completed in 1909. Chemulpo was allowed 946,287 of which 40% was spent at the end of the last fiscal year. Wonsan, yen 491,142, is nearing completion and the balance of this work in a general way progressed most favorably. When the general harbor works improvement scheme is carried out Korea will not lack modern ports to encourage her foreign trade.

*Irrigation.*—The Japanese authorities have endeavored to encourage the development of agriculture, forestry and sericulture and for this purpose have established model farms and schools. It was found, however, that unless comprehensive systems of irrigation were introduced large areas

FIRST YEAR OF AFFORESTATION IN MODEL FOREST NEAR SEOUL



RESULT SHOWN IN THE SECOND YEAR ON SAME FOREST


POST OFFICE AND POSTAL ROUTE IN KOREA
31ST MARCH, 1909
MANCHURIA.
CHIENTAO
NORTH-HAM-GYONG
SOUTH-HAM-GYONG
NORTH-PHYONG-AN
SOUTH-PHYONG-AN
HOANG-HAI
KANG-UON.
KYONG-GEUI
NORTH-CHUNG-CHYONG
SOUTH-CHUNG-CHYONG
NORTH-KYONGSYANG.
SOUTH-KYONGSYANG.
NORTH-CHOLLA.
SOUTH-CHOLLA.
CHONG-JIN
SHIN-WIJU
WIJU
PYING-YANG
WONSAN.
SEOUL
CHEMULPO
KUNSAN
MOKPO
FUSAN
TAIKU
TO CHINA
TO JAPAN
SOUTH-CHOLLADO
Chehju Isl.
MOKPO
CHEHJU

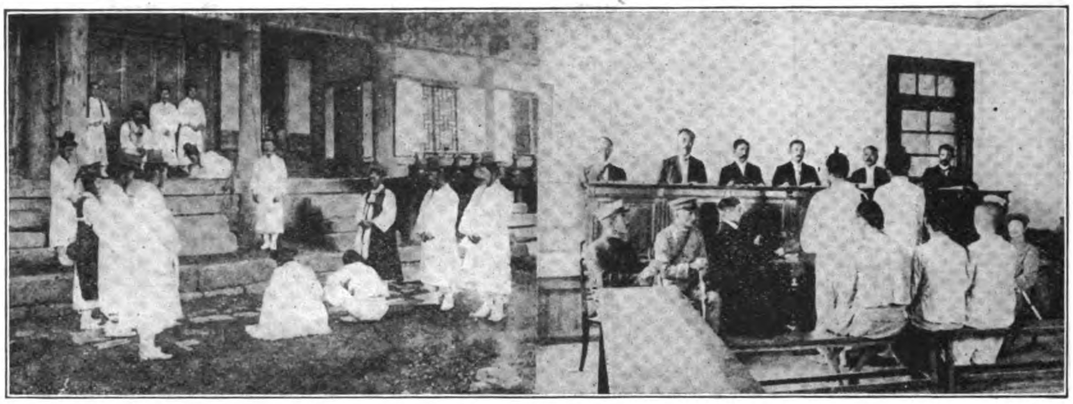
could not be made productive. An investigation into the status of irrigation revealed the fact that there were 1,231 irrigation reservoirs or ponds scattered throughout the peninsula that had been in existence for centuries, but as in other departments of industry they were neglected by the Koreans and few, if any, served their original purpose. One reservoir situated on the Government Model Farm at Luwon, was built in the reign of Empêror Chong-Chong over 115 years ago. This pond is well preserved for the reason that the Imperial Household has always been interested in this farm. Plans have been under consideration for the reconstruction and repair of these reservoirs as the initial step to a more comprehensive scheme to redeem waste lands and instal irrigation systems by utilizing the natural waterways of the country.

*Cotton Planting.*—The cultivation of American upland cotton is being encouraged. The latest statistics available show that in 1908, 492 acres were under cultivation as compared with 150 acres in 1906, and 102,765 pounds were produced in 1907. The Korean government subsidized an "Association for the Cultivation of Cotton" to the extent of yen 100,000 in 1906 and its plantation was placed under the control of the Government model farm at Mok-po. In 1908 a temporary cotton planting station was established by Imperial Ordinance and the new station undertook the business of the association. Great interest has been taken in this industry in different sections of the country and there is promise of greater extension in the near future.

*Mining.*—The principal mines operating are those at Wunsun controlled by the Oriental Consolidated Mining Co. The concession was granted James R. Morse in 1896 and modified in 1899. The output of gold for the year ended February 12, 1909, amounted in value to $1,716,-104 gold according to the Resident General's report and there were employed 75 Americans and Europeans, 60 Japanese, 2,300 Koreans, and 600 Chinese. The company was organized under the laws of West Virginia with a capital of yen 10,000,000.

The other mines include the English concession of Suan in HuWang province operated by the Korean Syndicate; the Chik-an mine, Japanese concession, owned by the Asano Syndicate in Chang-Chong province; the Chang-Yang mine, a French concession in North Pyong-an, and an Italian concession in Hu-Chang, same province. All these concessions produce gold and associate minerals. With the promulgation of the new and more liberal mining laws in 1906 there was greater interest shown in this department of industry and many applications were received. Up to the end of 1908 figures available show 361 new concessions granted, 285 to Japanese, 47 to Koreans and 29 to other nationalities.

The Kapsan copper mining concession, granted Messrs. Collbran Bostwick Co. in 1904, was the subject of diplomatic adjustment owing to certain indefinite clauses in the original grant that caused the Resident General to withhold his confirmation. However, in 1908, an adjustment was reached and a new concession granted covering the old grant the area to be selected in the Kap-San District before 1913.



OLD COURT TRIAL, KOREA NEW COURT PROCEEDINGS

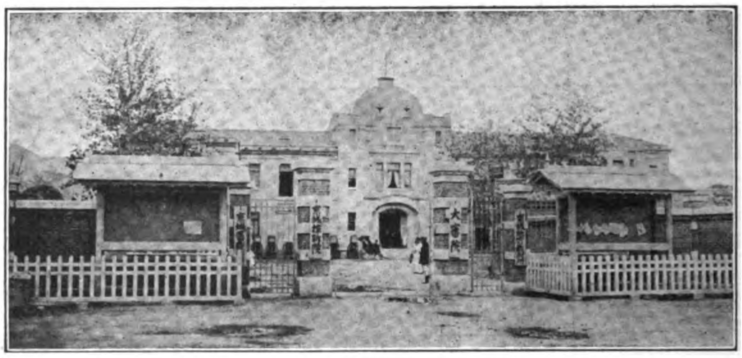
*Reproduced from the Resident General's Report*

The Pying-Yang coal mine operated by the Pying-yang Coal Mining Station of the Korean Government began extending its operations in 1907 to meet the demand for coal by the Tokuyama Coal Brick Manufacturing Station maintained by the Japanese Navy. The output increased from 2,150 tons in 1907 to 53,493 tons in 1909. The extensions and improvements included a railway seven miles long to connect with the railway station at Pying-Yang.

The iron mines in Hwanghai province near Chinnampo were controlled by the Imperial Household of Korea until transferred in 1907 to the Department of Agriculture, Commerce and Industry and operated by Japanese under a royalty. The annual output is represented by approximately 50,000 tons which are shipped to the Japanese Government Foundry.

*Sanitation.*—Perhaps in no department of activity in Korea has the benefit of Japanese initiative been more apparent than in the battle along sanitary lines against dirt and disease. A Sanitary Bureau, with ramifications extending throughout the country, was established in 1908 and a continual war against epidemic diseases has been waged with more or less success. Evidence of the control of cholera and smallpox is found in a comparison of the mortality in 1908 compared with 1907, and in 1909, according to the Resident General's report, the outbreak was confined to Seoul by most vigorous measures. As in other backward peoples the success in stamping out disease in Korea corresponds to the measure of sympathy and co-operation given the health authorities by the people. Prejudice is dying hard in Korea where superstition is well grounded. This is particularly

*(Continued to page 133)*



NEW COURT HOUSE AT SEOUL

SHIPPING COTTON FROM THE PORT OF MOKPO, KOREA

# THE FAR EASTERN REVIEW

GEO. BRONSON REA, M. E.

PUBLISHER

WILLIAM CROZIER, Editor.

COMMERCE :: ENGINEERING :: FINANCE

A Monthly Review of Far Eastern Trade, Finance and Engineering, Dedicated to the Industrial Development and Advancement of Trade in the Philippines and Far Eastern Countries

PUBLICATION OFFICE:

MANILA, PHILIPPINE ISLANDS

HEAD OFFICE

WHITEAWAY LAIDLAW BUILDING

Shanghai

UNITED STATES REPRESENTATIVES:

J. ROLAND KAY CO.

Teutonic Building, Chicago, Ill.

GREAT BRITAIN:

PROBSTHAIN & CO.

14 Bury Street British Museum, London, W. C.

SUBSCRIPTION AGENTS:

| | |
|---|---|
| Hongkong | KELLY & WALSH, LTD. |
| Singapore | " " " " |
| Yokohama | " " " " |
| Shanghai | " " " " |
| Tientsin | TIENTSIN PRESS, LTD. |
| Washington, D. C. | BRENTANO'S. |

SUBSCRIPTION RATES: Philippines, United States, Canada, and Mexico, $2.50 U. S. C. per year. To all other countries in the Postal Union, $3.00 per year. Single copies 25 cents, U. S. C.

ADVERTISING RATES will be mailed on application.

Communications pertaining to the Editorial Department should be addressed to THE EDITOR.

ENTERED AT POST OFFICE, MANILA, P. I., AS SECOND CLASS MATTER.

MANILA, SHANGHAI, AND YOKOHAMA, SEPTEMBER, 1910


CONTENTS


| | Page |
|---|---|
| The Mineral Resources of the Philippines | 113 |
| Gold District of Paracale | 114 |
| Baguio Mineral District | 115 |
| Aroroy Mining District | 117 |
| Gold Placers of Nueva Ecija | 118 |
| Mancayan-Suyoc District | 119 |
| Philippine Coal | 120 |
| Coal in Cagayan Valley | 124 |
| Japan in Korea | 125 |
| The Annexation of Korea | 129 |
| The Chinchow-Aigun Railway | 129 |
| Philippine Trade | 130 |
| President Tang Shou-Chien's Dismissal | 139 |
| Material for Paper | 130 |
| The Late Lu Ch'uan-Lin | 131 |
| Visit of the American Merchants | 131 |
| The Tokyo Floods | 132 |
| Success of the Philippine Penal Colony | 132 |
| The North China Daily News and Herald's Diamond Jubilee | 132 |
| The Eastern Engineering | 132 |
| The China North Review Annual | 132 |
| The Allgemeine Electricitaet Gesellschaft of Berlin | 133 |
| The Gorges of the Yangtsze | 135 |
| Far Eastern Railway News | 136 |
| Contracting News | 138 |
| Philippine Mining News | 139 |
| New Candle Factories for Shanghai | 139 |
| Far Eastern Engineering, Construction, Commercial and Financial News | 140 |
| London Metal Market | 143 |
| Far Eastern Share Quotations | 144 |
| Shanghai Additional List | 146 |
| Singapore Share Quotations | 146 |
| Yokohama Share List | 148 |
| Philippine Share List | 149 |


## THE ANNEXATION OF KOREA

"To promote the common weal of the two nations and to assure permanent peace in the Extreme East" is the declared motive for the conclusion of the treaty of annexation between the Emperor of Japan and the Emperor of Korea. This is supplemented by an introduction to the official announcement of rules governing Korea's foreign trade and treaty obligations as affected by the transfer of sovereignty, which offers further explanation and follows:

"Notwithstanding the earnest and laborious work of reform in the administration of Korea in which the Governments of Japan and Korea have been engaged for more than four years since the conclusion of the agreement of 1905 the existing system of government in that country has not proved entirely equal to the duty of preserving public order and tranquillity and in addition a spirit of suspicion and misgiving dominates the whole Peninsula In order to maintain peace and stability in Korea, to promote the prosperity and welfare of the Koreans and at the same time to insure the safety and repose of foreign residents it has been made abundantly clear that fundamental changes in the actual regime of government are absolutely essential."

The treaty was concluded August 22 and promulgated August 29.

In another column, we publish a short review of the development that has featured Japanese administrative control initiated by the agreement of 1905, and while there is every indication of a progressive policy on the part of the Japanese with respect to the development of the country's lagging industries, the lack of co-operation on the part of the people and the limited control of the different functions of government were too serious handicaps to make the program of reform effective. With the transfer of sovereignty these limitations are removed and we have no hesitancy in predicting a remarkable era of development under the new regime. The preservation of peace and the insurance of protection to private property were not possible under the former regime without conflict of authority. These are necessary requirements as a basis of any healthy progress along the line of reform and Japan had either to withdraw her influence from Korea and abandon her policy there or annex the country. The Koreans failed to take advantage of the opportunity to co-operate and participate in the program of reform which was their only hope for the preservation of the Korean empire. Their fate is that of "cumberers of the earth."

Little, if any, opposition has been noted in the press to the transfer of sovereignty. It is generally realized that Korea, in its decadent state, was a menace to Japan. It offered temptation for international intrigue. It is now an added safeguard to the integrity of the Japanese Empire.

Japanese writers, in discussing the transfer of sovereignty, direct attention to the similarity of motives that urged the annexation of Hawaii by the United States, when it became apparent to the latter that unless the islands became United States territory, they might form a bone of serious contention and a menace to the western coast if occupied by a foreign power.

These writers also refer to America's altruistic policy in the Philippines and point to the great similarity in methods of reform and development of industries among a backward people, inaugurated in the islands and those in Korea. They claim that Japan's control of Korea will give it the same authority there to carry out its policy as that enjoyed by America in its island possessions, and, while it is the present pronounced policy of the administration at Washington to give the islands independence at some indefinite date, it is the generally accepted belief that the advantages of American sovereignty over the islands will become in time so apparent to the Filipinos that they will refuse to countenance agitation favoring withdrawal. The Japanese, however, are anticipating the future appreciation by Koreans of the benefits of annexation and the definite announcement of the status of Korea as an integral part of the empire makes for greater confidence in the future of that country, a consummation not provided with reference to the Philippines by the indefinite status involved in Washington's policy.

In a word, Japan refused to undertake definite responsibility for the tuition of the Koreans without the authority necessary to enforce the Imperial will in matters of discipline, and to control international relations in a manner to avoid embarrassing situations. And Japanese statesmen presume the conditions that made it necessary to acquire sovereignty would be resumed should hope for independence be held out to that country in the future. The treaty of annexation therefore, very wisely, contains no such sophistry.

## THE CHINCHOW-AIGUN RAILWAY

Interest in the proposed construction of this line has received an impetus by the action of the China Association in filing a protest with the British Foreign Office against the sacrifice of the interests of British contractors by the continued attitude of the British government towards the construction of this line in deference to the wishes of Russia and Japan as affecting Mongolia and Manchuria.

The Association claims that this line is purely a Chinese undertaking and does not conflict with the Anglo-Russian Agreement. A copy of this protest was sent to twenty British chambers of commerce with the result that several of these bodies have given it unqualified support. In addition to this Messrs. Pauling & Co., Ltd., the contractors interested, issued a circular to the British trade associations in which they say:

"The objections of Russia and Japan are inconsistent with their treaty obligations, and our government's support of these objections is not founded on any convention, agreement or treaty. It is plainly a case of unnecessarily sacrificing British interests and of shutting the doors of a growing and important market to British trade for good and all."

The Foreign Office, it is reported, does not assume that the simple carrying out of a contract to construct a line in which there would be no British control involved, could be construed as a violation of the strict letter of the agreement, but it holds that it might be considered an infringement of its spirit.

The counter proposal of Russia that the construction, for the present, terminate at Yao-man-fu does not meet with favor.

Those interested in the concession see inconsistency in Russian opposition and the inference is drawn that there is a well defined understanding to which Japan, Russia, Great Britain and France are alleged to have subscribed, designed to prevent China controlling a line of railway to her borders in Manchuria, Mongolia, Tibet or French Indo-China and that the interest of the British government is thus sacrificed respecting Manchuria so that her influence in Tibet may be advanced. Whether this may be relied upon as an explanation of her attitude, the excuse offered by the Foreign Office for failing to support British contractors in Manchuria is taken by many Britishers in the Orient with a grain of salt. Officially, any such motive is denied.

The *Shanghai Times* compliments Mr. Thomas Mallard on his article "America in China" appearing in the *Forum* in disclosing to the world the reasons assigned Japan and Russia for their opposition to the railroad.

Japanese opinion resents the implication that the Tokyo government is, or has been, opposed to the construction of the Chinchow-Aigun line by China, and the *Japan Mail*, reflecting this general attitude, directs attention to the recent assent of the cabinet to the undertaking and says:

"There is one obvious discrepancy between the facts and their statement. The China Association is represented as considering this railway question a conclusive test of the accessibility of Manchuria to British capital in the face of Russian and Japanese opposition. But the truth is, as it seems to us, that the exclusiveness is mainly on the side of the Association so far as Japan is concerned. It is an old

experience that error dies hard, and we do not at present recall any incident which illustrates the aphorism more vividly than does this Aigun-Chinchow Railway. For, the China Association *non obstante*, the country against which a policy of exclusion would appear to be followed is Japan. The Japanese Government has never objected to the building of a railway between Chinchow and Aigun, or to the investment of British capital in such an enterprise. On the contrary, the Tokyo Cabinet assented to the project from the outset, making only one condition, namely, that Japan should share and share alike with other foreign countries in furnishing the capital and contracting for the materials. In fact, Japan simply asks for that equality of opportunity which she is now wrongfully accused of denying to others. It is against Japan, then, that an exclusive policy is to be exercised, whereas the accusation is that Japan seeks to exercise that policy against others in this very case."

The *Times*, however, assumes a pro-Russian tone with respect to the opposition from St. Petersburg, and justifies Russia's attitude. This semi-official expression is no doubt largely due to a desire on the part of Japan to placate the American financiers, counteract the growing British opposition to the alliance and at the same time display a friendly attitude towards her northern neighbor. The *Times* says:

"Coming to Russia, it has to be admitted that she objects to the railway project, but no one would think of caviling at her attitude or denying her rights in this matter. A railway from Chinchow to Aigun would have been the opening of a new gate of access to Russian dominions, and would have had strategical importance of the highest character. Russia is absolutely justified in declining to endorse such a programme, nor can her reluctance be justly construed as in any sense subversive of the principle of Equal Opportunity. Especially has it to be noted that St. Petersburg softens its refusal in the Aigun direction by offering to sanction an alternative line giving direct access to Peking further west. Finally, not Russia alone, but also all impartial onlookers must be puzzled to find in purely commercial and industrial motives an explanation of China's anxiety to build a long and costly railroad in a remote and unfrequented part of her dominions, while neglecting to similarly equip provinces where a crying need for such facilities plainly exists."

Tokyo is accomplishing a difficult diplomatic feat with remarkable success and yet it matters very little to her which way the "cat jumps."

However, the British commercial interests are far from satisfied with the situation generally and while the allegation that there is an understanding among the different powers mentioned, including Great Britain, is denied, the suspicion remains, and it will take more than semi-official interviews to clear the atmosphere.

That the American financiers interested do not consider the Chinchow-Aigun Railway proposal a "closed incident" may be gathered from the following interview with a member of the group, from its New York correspondent, published in the N. C. *Daily News*:

"It is an exaggeration to say that we contemplate withdrawing. Of course, if events show that the railway cannot be built, we shall not continue to press the matter, but the present outlook seems to us to make it certain that the road will be constructed. We believe the work will be well under way within a year, at the most. The position of the British Foreign Office does not interest us at all. British protests or hostility will not hinder us in the slightest degree. Our interests are in the hands of the American State Department, and whatever attitude Sir Edward Grey sees fit to adopt will have no bearing on the position adopted by our Department of State. We mean to have the railway built, and it will be built. The Chinese Government has signed the rescript for the construction of the road, and though it is being held up, this is due only to temporary difficulties. It is causing us no uneasiness whatever. We are quite content to let matters move slowly, knowing they are moving in the right direction. It is impossible to make any public statement of the present trend of the negotiations, for the position is too delicate to admit of undiplomatic discussion, but we have every reason for believing we shall be successful."

The outcome of the controversy over this important line is awaited with great interest. Among the great majority of representatives of British and American interests there appears to be a growing appreciation of the Knox proposal respecting Manchuria. At first it was received with great reserve and through almost every British official and semi-official channel, disparaging comment was encouraged. This attempt to force opinion at the outset was successful, but slowly, yet surely, the practical benefits of the Knox doctrine, its application as a peaceful and desirable solution of vexing questions respecting Manchuria, consistent with the declared policy of the "Open Door" and the guarantee of China's integrity, and the principle of fair play and unselfishness involved, have been more and more appreciated. Indeed, we find a growing sentiment among the leading British commercial bodies deploring the sacrifice of British interests to diplomatic adventure that offers no adequate return. This influence will have to be reckoned with and the Foreign Office may yet be obliged to revise its position materially to quiet the protest of British foreign trade interests.

## PHILIPPINE TRADE

The total value of Philippine foreign trade for the year ended June 30, 1910, amounted to 153,897,554 pesos, an increase of 36,219,674 pesos over the previous year. The imports amounted to 74,123,850 pesos compared with 55,588,964 pesos in 1909 and the exports were valued at 79,773,704 pesos compared with 62,088,916 pesos in 1909. The balance of trade in favor of the islands for the year was 5,649,854 pesos, an amount three times that of the previous term. The increase in export included hemp from 79,210 tons to 99,305, sugar from 21,285 to 94,155 tons and cigars from 2,696,000 to 83,931,000.

Of these exports 39,502,842 pesos worth went to the United States as against 20,508,174 pesos the previous year, while the American imports increased in value from 9,387,662 pesos to 21,552,256 pesos or more than double.

The increased trade is largely due to the limited free entry of sugar and tobacco into the United States.

The main feature of the year is the growth of American trade with the islands representing 47% of the exports against 33% the previous year and an increase in imports from 17% in 1909 to 30% in 1910.

## PRESIDENT TANG SHOU-CHIEN'S DISMISSAL

The following edict was issued under date of August 23 cashiering President Tang Shou-chien of the Chekiang Railways:

"The Grand Councillors have submitted a telegram from Tang Shou-chien, ex-Commissioner of Education in Kiangsi province and President of the Chekiang Railways, accusing Sheng Hsuan-huai of being the chief culprit and originator of all troubles to the Kiangsu and Chekiang Railways and stating that he should not be allowed to return to his post, also praying that his appointment may be countermanded, or that he may be divested of control of railway matters so as to satisfy the people of the Empire. His words are mostly improper and exceedingly wild and rebellious. The Throne in the appointment of men has its own decision and Tang cannot be allowed to make improper representations at random. He merely seized upon this as a pretext to escape responsibility in railway affairs and to win for himself renown. Thus he has purposely made dangerous statements to excite attention and his cunning motive will not bear inquiry. Tang Shou-chien is hereby cashiered and is not allowed to interfere in railway affairs. This is intended to serve as a warning to those who seek to fish for praise and reputation and are cunning to avoid responsibility."

This action created a sensation and the Board of Directors submitted a petition asking that the decree be withdrawn. President Tang has been active in a campaign for the cancellation of the agreement between the Chekiang Railway Bureau and Peking. His dismissal is interpreted as an indication of the purpose of Peking to centralize control of railway construction in the Emipre.

## MATERIALS FOR PAPER

In view of the proposed development of the paper manufacturing industry in Indo-China with a view to utilizing bamboo, as outlined by Hongkong and French capitalists, the report of Mr. Arthur D. Little, the official chemist of the American Paper Pulp Association, recently issued, may be of special interest at this time. Mr. Little has made exhaustive investigations to search out new fibers for this purpose in view of the rapidly disappearing supply of wood product. He places waste flax straw in the lead, then follows cotton seed fiber, cotton and corn stalks, wild American hemp, marsh grass, cogon grass and Manila waste. Among these, he gives bamboo a prominent place as may be gathered from his report as it appears in the *Publishers' Weekly* in part as follows:

"Especially noteworthy in the development of the year is the serious and general revival of interest in bamboo as a source of paper stock. Its superlative value for this purpose was urged, you will remember, by Routledge in 1875 after his introduction of esparto into England. You may also remember that my report of last year refers to the very favorable conclusions as to bamboo reached by R. W. Sindall in his report to the British Government on available sources of supply of paper stock in the British Colonies. These conclusions are now amply confirmed by Raitt, who has recently published the results of numerous experiments of his own on the mill scale in Burmah, Bengal, Malabar and Straits Settlements, and by Richmond in the laboratory of the Bureau of Science at Manila. Raitt finds in bamboo a really inexhaustible raw material. He recommends the establishment of bamboo plantations so arranged that one-third of the whole plantation shall be cut over every year. This will secure absolute permanence of growth, and, in fact, such systematic cropping will increase production. Raitt finds the yields of bamboo to be 11 tons per acre where the growth was poor, 18 tons with moderate growth, and 44 tons per acre with luxurious growth. The best yields of fibre, 44 per cent., and the best results in treatment were secured with three-year old shoots. The internodal pieces alone were digested, the rejected nodes amounting to 8 per cent. of the total weight. The stems were cooked at 60 pounds pressure for ten hours, with 30 pounds of 76 per cent. caustic per hundredweight of dry bamboo. The fibre bleached to good color, with 20 pounds of bleach per hundredweight.

"Raitt further finds that the stems were easily reduced by the sulphite process, giving a yield of 51 per cent. and bleaching to a brilliant white, with 16 pounds to the hundredweight. He estimates that in a 200-ton sulphite plant at Rangoon the cost of bamboo fibre will be $24.30 a ton.

"Richmond, whose excellent work in the Philippines deserves the highest credit, finds that it is quite unnecessary to remove the nodes prior to cooking, provided the stems are first passed through crushing rolls and afterwards, for convenience of packing in the digester, cut to 3 or 4 inch lengths. He obtains from the different varieties of bamboo yields of 40 to 43.7 per cent. of bleached fibre by the soda process. The sulphite process gives 43.5 bleached fibre, which puts bamboo on about the same basis as wood in this regard. The unbleached sulphite was nearly as white as the thoroughly bleached pulp.

"The importance of these figures becomes evident when we consider that we have in bamboo a raw material directly comparable to wood in many respects, but with no bark to remove,

THE THIRD FIGURE FROM THE LEFT, SEATED, IS THE LATE LU CH'UAN-LIN

## THE LATE LU CH'UAN-LIN

By the death of H. E. Lu Ch'uan-Lin, Grand Councillor and Grand Secretary, last month, China loses another of her elder statesmen who held a high place in the councils of the nation. An Imperial Decree under date of August 27, conferring posthumous honors, contains a touching tribute to the deceased statesman and of which we quote:

"Grand Secretary Lu Ch'uan-Lin was patriotic, pure, intelligent, upright and of unbending strength of character. From a member of the Hanlin College he was appointed a District Magistrate, and as his capabilities were specially appreciated by the late Emperor, he filled high provincial posts and attained to a Viceroyalty. In carrying out his duties he shirked neither labour nor ill-will and in deliberation upon important measures displayed farsighted and profound acumen. Wherever he bore sway, officials dreaded and the people loved his rule and much success was attained.

"When he led troops to protect the Court he accomplished yeoman service in determining plans and doubts. He was promoted President of a metropolitan Board and entered the Grand Council. Since Our accession, We entertained regard for the aged and experienced statesman and reposed trust in him, appointing him Grand Secretary with the Brevet Rank of Grand Guardian of the Heir-Apparent.

"In his service of over fifty years in the capital and provinces he committed not a deed of impropriety, nor uttered a deceitful word. In official duties he would forget private ends and was consistent in conduct from beginning to end. He has attended duties for a long time in the Grand Council and he served with the utmost sincerity. He was faithful to the last and rendered much assistance.

"On his illness, contracted some time ago, he applied to be relieved of his important offices, and had been granted leave of absence. We bestowed upon him quantities of ginseng and had been in hopes that he would have recovered and We should be able long to rely on his assistance. We have suddenly learnt of his demise and deeply condole therewith. Our sorrow is all the more aggravated at these deaths of old Ministers when troubles beset the State. A Tolo pall is conferred upon him, to cover his remains. Prince Tsai Jun (3rd Order) is commanded to head ten Officers of the Imperial Guards and pour out libation in his honour at sacrifices offered up on Our authority. A posthumous title should be bestowed upon him and the brevet rank of Grand Guardian is conferred.

"Marks of honour should be bestowed upon him on the scale of a Grand Secretary and his tablet shall be enshrined in the Temple for the Sages and Virtuous. A sum of Tls. 3,000 should be paid out of the Treasury of the Privy Purse for his funeral expenses.

"All records against him in office shall be expunged and the Ministry concerned shall look up and report on the marks of favour to be conferred. When his remains are conveyed to his native place the local officials on the way are ordered to devote proper attention to the cortege. His son, Lu Hsun-li, Expectant Taotai of Kiangsu, is appointed Expectant Director of a Metropolitan Court of the 4th Grade, and his grandson, Lu Hsiao-pan, is appointed Expectant secretary of a Ministry. We thus hope to show Our sincere remembrance of a faithful Minister."

---

and much more easily reduced to pulp by either the sulphite or soda process. Bamboo requires a weaker liquor and much less of it, and is reduced in less time with far less fuel consumption. A properly situated mill is assured of a regular supply, with a yield per acre every third year greater than that resulting from the cutting over of well grown spruce lands of good stand. Bamboo, in fact, has been known to grow two feet in three days in the Philippines. It is interesting to calculate from Raitt's figures for moderate growth that only about sixteen square miles is required to maintain indefinitely the supply of bamboo for a 100-ton mill.

"Two years ago I called the attention of the Association to the suitability and importance of bamboo as a source of paper stock, and referred to the initial suggestion for its utilization in this direction made thirty-five years ago by Thomas Routledge, as well as to the recent investigations of Richmond in the Philippines, Raitt in Burma, and Sindall in India.

"The subject has commanded considerable further attention during the year just past, and among the several articles which have appeared with reference to it special mention should be made of the monograph by Sindall, entitled "Bamboo for Papermaking," which is printed on an excellent quality of book paper made from bamboo. There appears to be no room for doubt that bamboo is one of the most promising, if not in fact actually the most attractive of the new sources of paper stock available at this time. It has no bark, it is much easier to treat than wood on account of its capillary sap tubes, and although Raitt advises otherwise, it is not, according to Richmond, even necessary to separate the nodes, which are perfectly reduced, provided the stem is first put through crushing rolls. The yield on the commercial scale is about 45 per cent. of bleached fibre, while the average yield per acre is 5 tons of bamboo.

"Bamboo stems are commonly cut at a standard length of 20 feet. The large bamboos have an average diameter of 2½ inches, small bamboos of 1½ inches. The number of 20 foot stems required for 1 ton of bamboo pulp is 440 in case of large bamboos, and 720 in case of the small varieties. Seven hours' treatment at 60 pounds pressure with caustic soda having a specific gravity of 1.075 is sufficient for its reduction, and the product reduced to good color with 6 per cent. of bleaching powder. The fibre is reported to work exceedingly well upon the paper machine.

"Even at the present time, when no systematic exploitation of the production of bamboo is in vogue, the large stems selected and intended for building purposes cost only 6*s*. 6*d*. per 100, and the price of a quality suitable for papermaking should be substantially less. Mr. Sindall estimates that a ton of unbleached bamboo pulp can be produced by the soda process in a mill within reasonable distance of the bamboo area for about £5 10*s*. Bamboo grows with such rapidity and is reproduced so easily that, according to Raitt's estimates, a piece of land 4 miles long and 5 miles wide is sufficient to supply a mill making 300 tons of pulp per week with the 35,000 to 36,000 tons of bamboo required as an annual supply."

The forests of bamboo found in every oriental country increasing in area every year without any care should offer a most desirable field for exploitation, and, by proper cultivation, the present area could be made much more productive than at present.

## VISIT OF THE AMERICAN MERCHANTS

The visit of the representatives of the Chambers of Commerce of the Pacific Coast to China marks another advance in the interests of better understanding between the two countries so closely associated in international trade. We are satisfied that their tour will prove a revelation in many respects. Outside the warm hospitality that is sure to be extended to them, the American businessman will be greatly impressed with the enormous producing capacity of the Chinese people and the evidence of progress in the introduction of modern methods which will add many times to their potentiality in this direction.

According to the *N. C. Daily News*, their tour will cover a very large territory. They will be met at Yokohama by H. E. Y. C. Tong and become the guests of the Chinese Chamber of Commerce of Shanghai who have set aside three days of the program for sightseeing in the settlement which will include a Chinese dinner at Shang-Suho's Garden and a reception at the International Institute.

"On Monday, the 18th instant, the party will start for Hangchow in a flotilla of houseboats,

to see the West Lake, the famous temple and the Bore. While at Hangchow an outdoor luncheon will be given in their honour, and there will be an elaborate display of fireworks. Returning to Shanghai by special train the party will devote Thursday, September 22, to further sightseeing, and it is hoped to arrange a military drill for their benefit at the Nanyang College. Then, by courtesy of the Shanghai-Nanking Railway a special train will convey them to Nanking, where the following three days will be spent. Lunch will be served at Soochow en route. At Nanking the party will find plenty to interest them in the Exhibition, Ming Tombs and silk factories, and adequate hotel accommodation has been secured for the visitors.

"On September 27 they will travel by another special train to Chinkiang, where a steamer, placed at their disposal by the China Merchants' S. N. Co., will carry them to Hankow, after a five hours' visit to the Ta Yeh Iron Mine.

"In all the provinces to be visited the officials have received instructions from Peking to do everything in their power to entertain their American guests. It is probable that the party will stay on board the steamer at Hankow, but representatives of the Hanyang Iron Works, and of the Wuchang Viceroy are now in Shanghai, arranging a programme in conference with the local Chinese Chamber of Commerce. Proceeding to Peking by special train, the party will make a stay of four days in the capital, and at Tientsin, where they are expected to remain for two days. Wang-Chu-lin, President of the Chamber of Commerce, and Sun Chung-ying, of the Ministries of Finance and Commerce, are making active preparations for their reception. The guests will be met at the station by the Chinese Committees, who will escort them to their respective hotels, and then, in small groups, accompanied by English-speaking Chinese gentlemen, they will be shown all that there is to see at Tientsin. On the day of their arrival they will be invited to a dinner in the pleasure grounds of Sun Chung-ying, and the following day they will visit the Peiyang University on the Viceroy's private yacht. Leaving Tientsin on a specially equipped steamer, the party will visit in turn Chefoo, Tsingtao, Foochow, Amoy and Canton. At Chefoo they will see the wild silk industry and vineyards; at Tsingtao the Governor and Chamber of Commerce have invited them to stay for a short time; local industries and a run along the new railroad of eighteen miles will occupy their time at Amoy; leaving their steamer at Pagoda Anchorage they will visit Foochow, where the Viceroy and prominent Chinese are making preparations for their welcome. The party is expected to see the largest tea hongs, the mint, and a specially prepared exhibition of the most important manufactures of the locality. Mr. Lin I-yu of the Foreign Board has invited the party to tiffin. Preparations for their welcome are also being made at Canton."

It has been proposed by the press of Hongkong to arrange a conference between the visitors and the Chamber of Commerce there.

The Philippines may also be honored. Manila is doing everything to induce the whole party to become its guests, as may be gathered from the following comment in the *Cablenews-American*:

"As is well known the Manila Merchants' Association has plans on foot to prevail upon these business men from the Pacific Coast to visit Manila at the close of their tour in China. It is understood also that Commissioner Elliott has some plans to aid the merchants in bringing here these guests of the China coast chambers of commerce. The men composing the party come from the leading commercial centers on the western coast of the United States. They have been chosen by the chambers of commerce and other commercial bodies of the cities they represent and are in every sense of the word representative American business men.

"It is hard to imagine a party of men more to be desired as visitors to Manila. It would be a great misfortune for Manila should the Manila Merchants' Association be unable, for any reason, to prevail upon these men to come here for a visit. It is understood that the Manila Merchants' Association will spare no effort to get the party here. President Erlanger of the Association has been in correspondence with the leaders of the party and has plans laid by which it is hoped to have the party come here from Canton or when the itinerary in China is completed.

"A representative of this paper talked with a number of the delegates before they sailed and succeeded in interesting them in the Philippines. They expressed themselves as very desirous of coming here if an opportunity was offered. That opportunity will be given by the Manila merchants and the Government if present plans go through and the chances are that the whole party will be found in a receptive mood."

## THE TOKYO FLOODS

The terrible floods that visited Tokyo and the surrounding country, last month, resulting in enormous loss of life and property was the most serious in the history of the country. It is estimated that over 1,200 persons lost their lives or were seriously injured and several hundred are reported missing. Railway property alone was damaged to the value of approximately yen 2,000,000 according to the report by the Home Department. Relief measures were promptly inaugurated by the authorities and it is estimated that over 200,000 refugees were cared for. Every public building was turned into an hospital for the injured. Worldwide sympathy was expressed throughout the globe and contributions came pouring in from Europe and America.

The extent of the damage has not yet been fully realized. The loss in houses totally destroyed is reported to reach 4,000 and submerged buildings 150,000. Embankments were reported destroyed and 500 bridges washed away.

The railway service was almost completely demoralized and remained so up to August 13 when the Shimbashi and Shidzuoka service was resumed in part and it will take months to complete repairs. On August 20, traffic was resumed on the majority of the lines but there were few of them where the entire distances could be covered.

The typhoon passed over the Tokkaido on August 8 and wrecked a bridge near Kakegawas. The rain fell in torrents and during August 9 a large section of the bank of the Oigawa gave way. Later, at noon on the 10th, the Yahase river showed a rise of eight feet. Railway traffic was suspended in the vicinity of Magoya. Tunnels collapsed, cuts became filled with landslides and bridges went out.

The loss will be by no means confined to the towns as all the country in the vicinity was inundated and the rice and other crops will invariably prove a complete loss.

The authorities, however, are to be congratulated upon the splendid organization that featured the direction of relief measures and the railway officials merit unusual recognition for the untiring energy displayed in removing debris and obstruction, and clearing and repairing the tracks so as to resume traffic as quickly as possible.

It is estimated that the rain fall for the 24 hours ended 10 a. m. on August 10 measured 344 m.m., an unprecedented record.

## SUCCESS OF THE PHILIPPINE PENAL COLONY

The system inaugurated by the Philippine Bureau of Prisons for reclaiming criminals by offering them every inducement to become law abiding citizens has given very satisfactory results. In no division of the bureau, however, even in the industrial training department, has more progress been made in that direction than that reported from the Iwahig penal colony.

This colony includes about one thousand convicts and their families, who have been rewarded by assignment there for good conduct. They are put upon their good behavior. All vigilance is relaxed. The members of the colony conduct their own affairs without outside interference. In fact it is a little republic. They elect their officials, control the policing and other functions of government and, with the aid given by the Insular Government, will soon be self-supporting.

Agriculture is encouraged. Every convict is given a plot of ground and at the expiration of his term is given a deed. There are already 25,000 cocoanut trees in the colony and other indications of industry. Good order and discipline has been maintained and, so far, the officials are more than satisfied. Indeed, many convicts have elected to remain and cultivate their lands after their terms expired and are now independent and law abiding. And, what is most gratifying, in no instance has a convict, who served a term in the colony, reverted to a life of crime. The treatment and encouragements received has been a revelation to them, and there is now no question but that a large percentage of Filipino criminals may be made good citizens by removing them from the evil influences of association with the pronounced degenerate type of law breakers, and encouraging them to industry in more wholesome atmosphere.

## THE NORTH CHINA DAILY NEWS AND HERALD'S DIAMOND JUBILEE

Sixty years of pioneer service as an exponent of British journalism in the Far East, reflecting the aspirations of the British communities in China and maintaining its position as a leader among the publications in Eastern Asia, is the enviable record to the credit of the *North China Daily News and Herald*. The first issue of this newspaper bore the date line, August 3, 1850, comprised four pages, and as one contemporary puts it, the proprietor and the editor wore the same pair of shoes. From that day until the present it has been a faithful chronicle of events and conservative in its editorial comment. It has a splendid record of achievement. We congratulate the management and extend our best wishes for the continuance of a prosperous career for this stalwart pioneer journal.

## THE "EASTERN ENGINEERING"

We are in receipt of the initial number of *Eastern Engineering* issued by the British Press, Ltd., London, as a companion of *African Engineering* published by the same Company. The management announces that:

"*Eastern Engineering*, the Advocate of Anglo-Oriental interests, is a monthly companion journal to *African Engineering*, owned by the same proprietors, the British Press, Ltd.

"The policies of *African Engineering* and *Eastern Engineering* are identical, viz.:—The staunch advocacy of the best British engineering interests throughout their respective spheres, and the strengthening of the business relations between overseas purchasers and home manufacturers."

*Eastern Engineering* will devote all its energy to advancing British interests in the Far East and as evidence of its sincerity the advertising department announces that "no advertisements of continental or American manufacturers can be accepted on any terms." The first number is well gotten up and contains a number of interesting articles on engineering.

## THE "CHINA NATIONAL REVIEW" ANNUAL

**"The provinces of China" is the title under which an interesting collection of reprints from the *China National Review* has been issued as an annual contribution by that publication and makes a valuable addition to the standard literature devoted to the diffusion of reliable information respecting the vast empire of China. This valuable work also contains a history of the first year of H. I. M. Hsuan Tung and an account of the Government of China, a carefully prepared record of events that should find a place in the reference libraries of those who desire to keep in touch with China's regeneration.**

**The foreword by Colonel C. D. Bruce contains two short, terse paragraphs strikingly indicating the "long felt want" that this publication is admirably designed to fill at least in part.**

**The Colonel writes:**

**"It has been stated, though the writer cannot vouch for the truth of the story, that at the time when Wei-Hai-Wei became a British outpost, the Foreign Office in London were under the impression that it formed a part of the Kowloon Hinterland at Hongkong.**

**"Although the story may not be strictly true, it is well known how colossal, until the last few years, has been the ignorance of all matters Chinese in England. Geographically, physiologically, philologically and politically, China has remained until a few years ago an almost unknown quantity to millions of otherwise well informed dwellers in Europe and America."**

## JAPAN IN KOREA

*(Continued from page 128)*

noticeable in the war against smallpox. Vaccination was practically unknown among many classes. The corpse of a child that had died from disease, hung on a city wall or a tree thereby, constituted the popular charm against the menace. However, an army of Japanese vaccinators has been scattered over the country and during the year 1908, 544,630 persons were vaccinated and greater facilities made available the following year.

Under the direction of the Bureau there is an experimental section connected with the Tai-Han Hospital at Seoul where a vaccine farm and other divisions for the preparation of serum, etc., are located. At Seoul a Sanitation Association, subsidized by the Korean and Japanese Governments, has for its purpose the mainten ance of model sanitary conditions in the capital for the benefit and example of the other cities and towns in the provinces.

The Tai-Han Hospital is a government institution and it is proposed to add a system of provincial hospitals so that each section will be provided with means for caring for the sick. Besides the government hospitals there are 13 Japanese settlement hospitals and in almost every missionary colony throughout the country there is found a modern hospital, among which special reference is made in the Resident General's report for 1909 to the Severance Hospital, endowed by L. H. Severance of Cleveland, Ohio.

*Water Works.*—Inadequate and unsanitary water supply has been largely responsible for the danger from epidemic diseases and plans covering an expenditure of approximately yen 5,000,000 were approved in 1908 for the installation of water supply in Chemulpo, Pying-Yang and Fusan. The only modern water supply in Korea up to that time was in Seoul which was completed and formally opened in August, 1908. The concession was granted Messrs. Collbran and Bostwick in 1903 who sold their rights to the Korean Water Works, Ltd., a British company in 1905. Construction began in 1906. The supply is taken from the Han River, three miles from Seoul. The water is pumped into settling reservoirs having a capacity of 2,496,000 gallons, then passes through sand filter beds by gravitation to a clear water reservoir with a capacity of 250,000 gallons. It is then pumped for a distance of two miles through a 21-inch steel main to a service reservoir, capacity 1,500,000 gallons, and a top-water level of 287 feet altitude to be carried through a 21-inch main to the city. There were 200 public and 700 service hydrants installed in 1909.

The Chemulpo water works included the construction of a pipe 25 miles in length to the intake. This work was finished in 1909 and the distribution system in the city recently concluded. The cost was approximately yen 2,250,000. The Fusan waterworks have also been opened at a cost of yen 1,200,000. With the exception of the Seoul works, the construction was under the direction of the Bureau of Civil Engineering.

At Mokpo the Japanese colony installed a gravity system costing yen 150,000.

With the installation of water supply systems, the prospect of substitution of modern sewage systems for the present inadequate use of pails and open drains, grows brighter, and while little has been accomplished in this direction, the Japanese are considering ways and means to carry out an extensive program

# THE ALLGEMEINE ELEKTRICITAETS GESELLSCHAFT

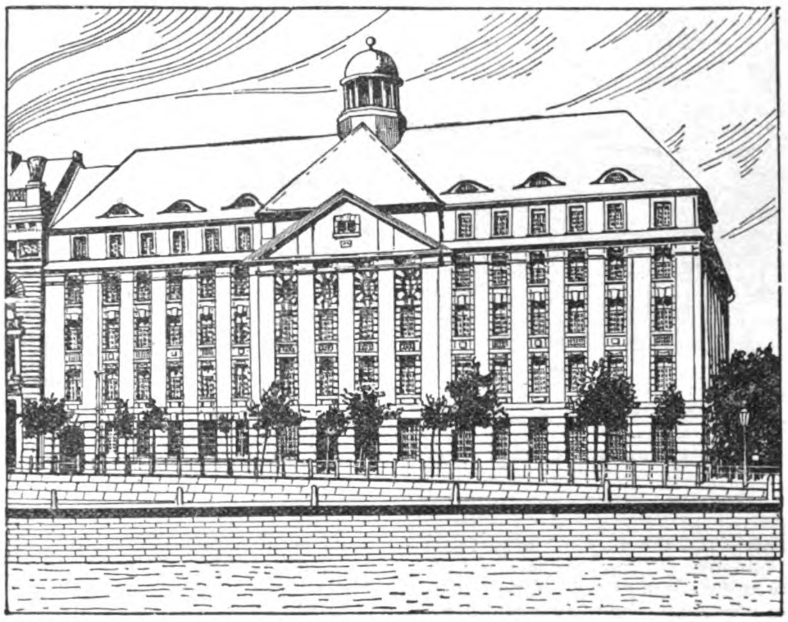
Throughout the entire history of commercial progress within modern times, there is probably no other industrial undertaking which has had such a rapid growth, and which is of such general interest as the Allgemeine Electricitaets Gesellschaft of Berlin.

The inauguration of this Company some 26 years ago was due to the initiative of Herr Emil Rathenau, who secured the Edison patent rights for Germany, and subsequently proceeded to the formation of a company with a capital of Mks. 250,000 for the technical study of these patents. In addition to Herr Rathenau, the original staff of the Company consisted of only one other employee. In consequence of its success, however, it was enlarged in the year 1881, and, under the title of "The German Edison Co.," began with a capital of 5 million marks. The firm's present title was assumed in 1887, and such has been its progress since that date, that to-day there are more than 106,000 customers on its books; it has a fully paid up share capital of 100 million marks and reserve funds amounting to 50 million marks, while the total number of employees exceeds 34,000, figures which, together with its large factories, enable it to rank amongst the first electrical manufacturing companies of the world.

The principal factories are the incandescent lamp factory, the cable works and the motor car factory.

The factory in the Schlegal Strasse in which the A E G first commenced operations, is now devoted solely to the production of auxiliary supplies. In one department micanite is manufactured in large sheets from Indian and Brazilian mica, and is subsequently employed for a great variety of purposes. In another department insulating materials of paper, linen, cotton, canvas, etc., are produced, while a third department is devoted to the manufacture of screws, nuts, spindles and other similar articles.

The incandescent lamp factory in the Sickingen Strasse is a six-storeyed building having a workshop area of 15,000 sq. meters. In this factory nearly 15 million lamps are manufactured annually, the average daily production being 50,000 lamps. Since the day this factory was opened, over 100 million lamps have been manufactured.



HEAD OFFICE, BERLIN

On taking up the construction of electric motors and generators it also became necessary to erect a special factory for the manufacture of apparatus. This factory, which is situated in the Acker Strasse, was built in 1888, and considerably enlarged in 1905. It has a workshop area of 89,000 sq. meters and employs more than 7,000 hands. Over 15,000 different articles are manufactured in this building. In addition to our lamps and electrical apparatus of every description, all classes of fittings are also produced.

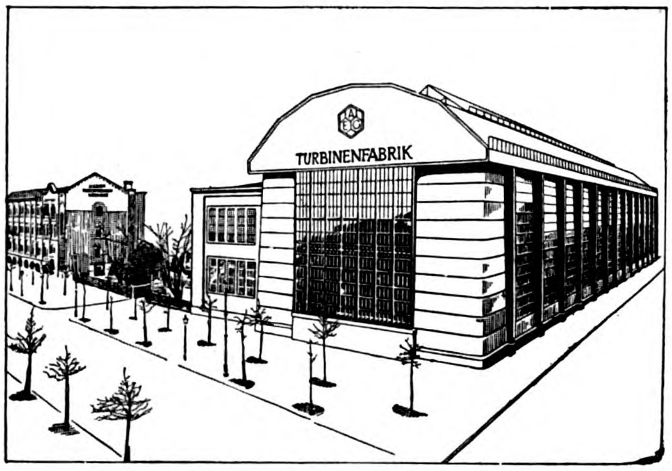
In consequence of the rapid development of the Company it was found necessary in the years 1905-1906 to erect a special factory for the construction of large machinery. This factory was built in the Brunnen Strasse close to the Humbolt Haim; the number of employees here is also between 7,000 and 8,000. During the business year 1908-1909 more than 47,000 machines and transformers with a total output of 1,250,000 were constructed in this factory.

In the year 1903 a factory was erected in the Hutten Strasse for the construction of steam turbines, which began work in April 1904 with 365 workmen. Six months later, however, this number was increased to 1,055, and at the present day there are over three thousand employees. In addition to the Riedler-Stumpf patents which the A E G first acquired, they also obtained the patent rights from the General Electric Co. of America for the construction of the Curtis turbine. The turbines constructed at the present day have been developed from these patents.

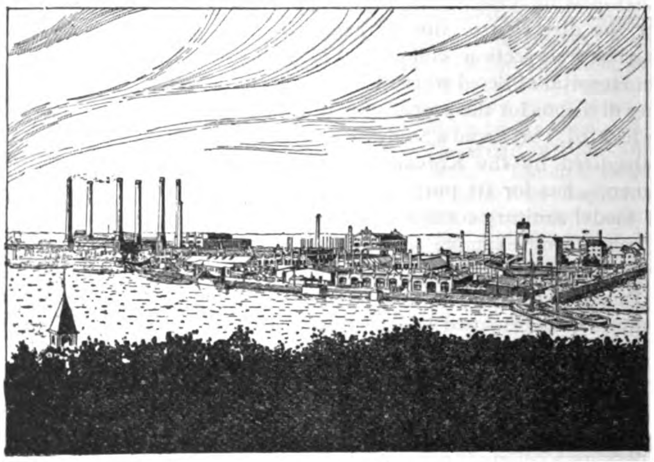
The cable works of the A E G are situated at Oberschoneweide six miles distant from Berlin, and cover a ground area of 100,000 sq. meters. In the spring of 1898 the cable works, copper rolling mills, the rubber works, and a department for insulated wires were opened here. Since that date further branches have been added. In 1899 a department for the manufacture of telephone cables was opened. Two years later, the sheet metal rolling mills and the pressed metal department (in which copper, zinc, tin and aluminum are worked in large quantities) began operations. The works are situated on the river Spree, and all raw materials are delivered by water. The quantity of

copper used in these works yearly amounts to approximately 20,000 tons, this quantity forming about 1-7th of the total annual copper consumption of Germany. The number of employees in the A E G cable works now exceeds 5,000.

In the year 1902 an additional factory was constructed adjacent to the cable works, for the manufacture of motor cars. It was very soon found necessary to increase the size of this latter factory, which in the year 1905 had a work-shop area of 14,500 sq. meters.



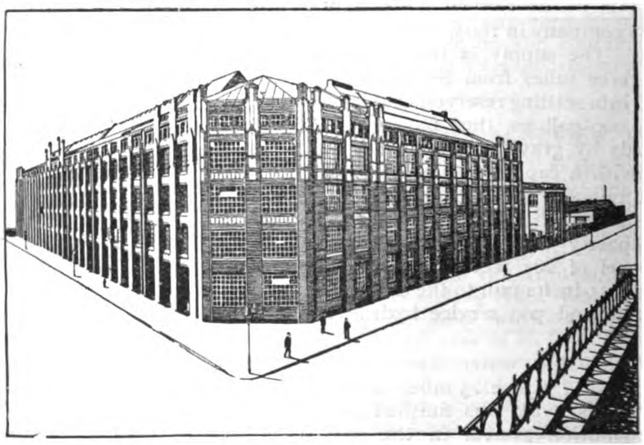

STEAM TURBINE FACTORY, HUTTEN STRASSE



CABLE WORKS, OBERSPREE

Notwithstanding these numerous large factories, the Company still experiences some difficulty in executing the multitude of incoming orders with the necessary promptitude and has, therefore, found it advisable to acquire a further large site measuring nearly 200 acres in the neighbourhood of Spandau. This new site is admirably situated, both as regards the delivery of raw material and the despatching of finish manufactures, having excellent connection with the main railway line, and also lying on the Berlin-Station ship canal.

APPARATUS FACTORY, ACKER STRASSE



LAMP FACTORY, SICKINGEN STRASSE

It will be of interest to mention a few of the most important of the great number of manufactures produced by the A E G. Among these are: electric motors and generators, from the smallest to the very largest outputs; steam turbines, which are constructed up to the largest practicable sizes for central station work, and also, more recently, for driving large marine propellers, further every class of apparatus and switch-gear, measuring instruments, electricity meters, carbon and metallic filament, incandescent lamps, nernst lamps, arc lamps and mercury vapour lamps, fans, cables, conducting and insulating material of every description, motor cars, welding machines, machine tools and mining drills, railway signalling apparatus, electric tempering furnaces, not to mention countless articles. With these extensive manufactures the A E G also combines the insulation of the electrical plants of every size and description, such as complete electric lighting plants for towns and industrial centres, electric power transmission schemes specially for mining and iron works, pumping plants, electric hoists and transport devices, electric driving of rolling mills, and crane equipments for all purposes. The complete equipment of electric railways and tramways, eletrolytic plant and ship installations also come within the range of the Company's work.

The greatest care is devoted to the construction of all machinery and apparatus, and all special requirements and conditions are carefully observed. The quality of the work is, therefore, of the very best. Much attention is also given to the artistic appearance of the finished manufactures. With this object in view, the services of the well-known artist, Professor Behrens, have been engaged, and it is to the skill of this gentleman that the pleasing external appearance of many of the Company's products is due.

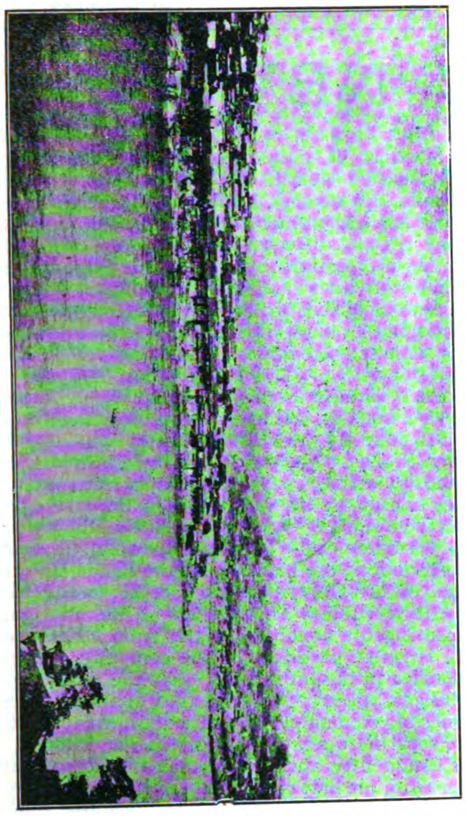
Apart from the A E G proper, numerous auxiliary companies have been formed, covering other branches of manufacture, such as the Wireless Telegraph Company, The Dirigible Airship Company for exploiting the Parseval airship, and the Wright Flying Machine Company, which has acquired the sole German rights for the Wright patents.

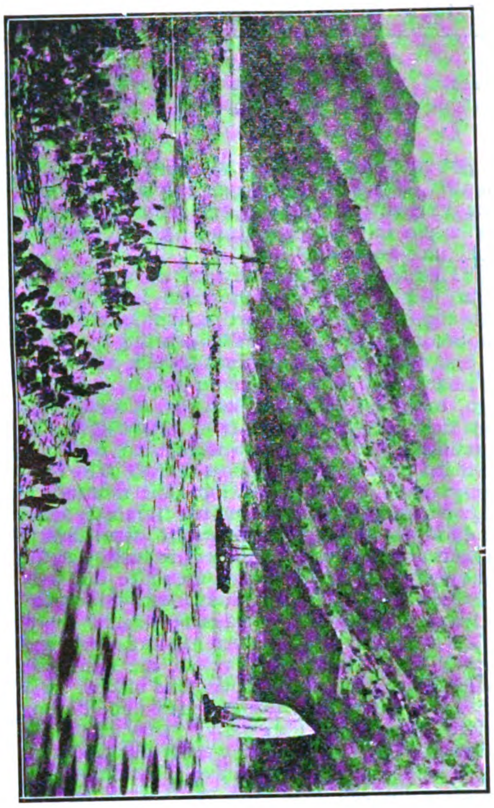
The friendly relations existing between the A E G and the Electric Company of America, and the various Thomson Houston Companies have resulted in the exchange of many patent rights with these companies, and arrangement which has been of considerable assistance to the A E G in the extension of its operations.

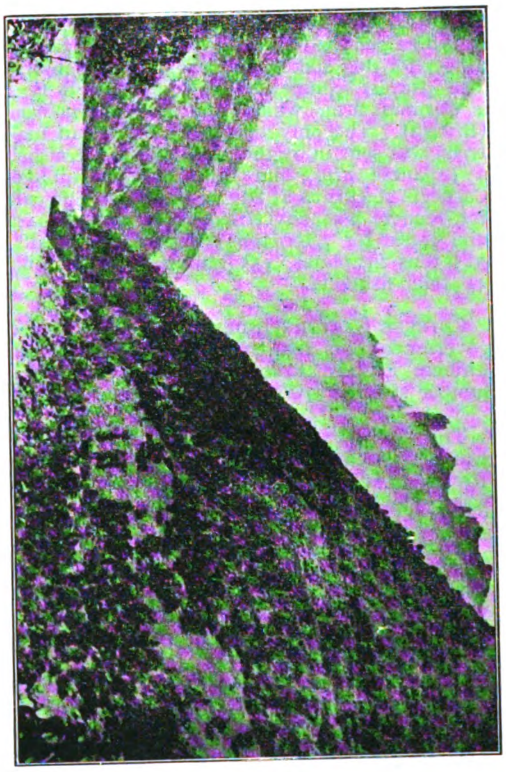
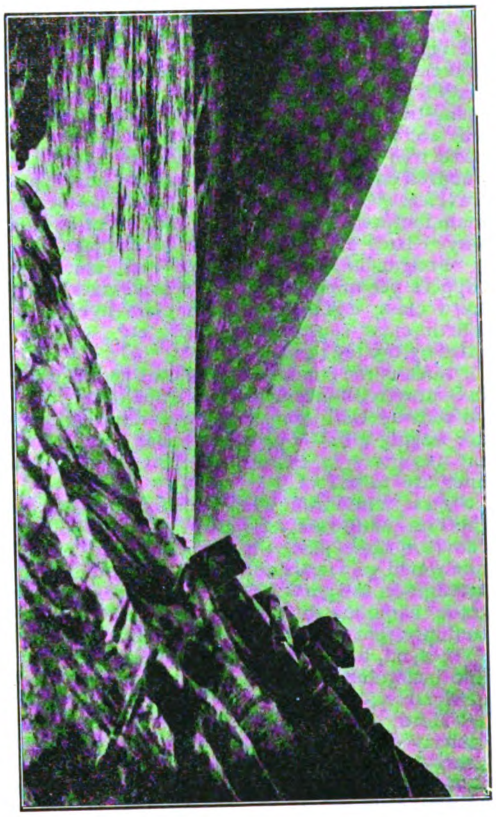
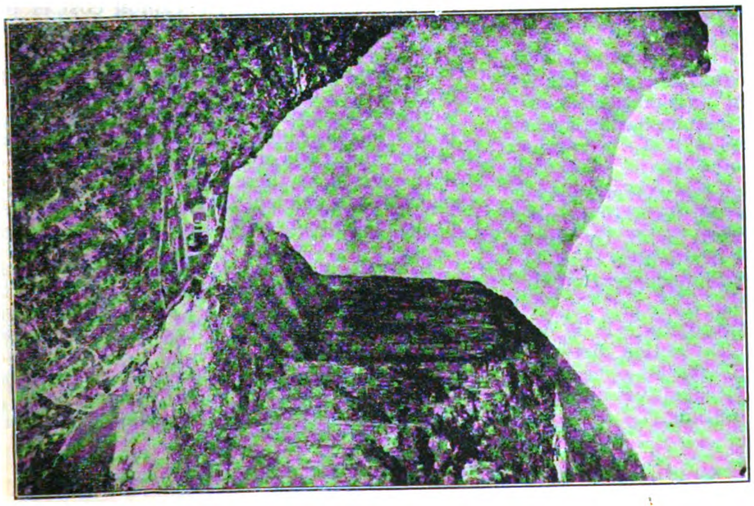
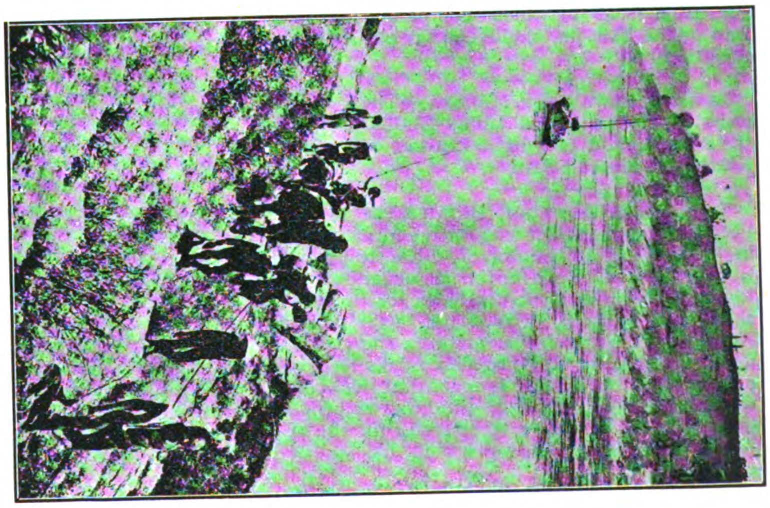
A well organized system of offices and agents arranges for the sale and installation of the Company's manufactures in foreign countries, and there is no German town of any importance in which an office of the A E G does not exist. The countries in which the Company is not directly represented are Holland, Russia, Norway, Denmark, Spain, Portugal, Switzerland, Austria, Sweden, The Balkan States, Italy and England, and outside Europe, in Argentine, Brazil, Columbia, Egypt, Guatemala, Japan, Asia Minor, Mexico, The East Indies, Siberia, Peru, The Straits Settlements, South America, Uruguay, The United States, Australia and China. In the last country the firm is represented by Messrs. Arnhold Karberg & Co.

Altogether, the A E G is closely connected with more than 30 subsidiary companies. There are over 30 installation offices for which there are six engineering departments at home and 90 offices abroad. The number of agencies outside Europe exceeds 40.

The wonderfully rapid advance of the firm to a world undertaking of the first importance is due to the tireless energy and unceasing work of its engineers and workmen.





THE GORGES OF THE YANGTSE RIVER

# FAR EASTERN RAILWAY NEWS

South Shantung Railways.—A correspondent of *Shanghai Mercury* gives a description of the Yihsien coal railway and plans for further extension in South Shantung. Of the Yihsien coal line he says:

"This road is technically known as the Tai-Tsao Railway, because it runs from Tai-erchwang, the principal port on the Grand Canal in South Shantung, to Tsao-chwang 90 li to the north, the village nearest the chief coal mines of Shantung. Work began on it over two years ago, the main promoter being H. E. Chang, at the time Salt Commissioner of Shantung. The gentleman and others associated with him have extensive interests in the coal mines. The road construction was held up for some months by the refusal of certain wealthy families along the line to sell the right of way to the railway. Trains are now running the entire length of the line, the largest bridge along the route, that west of Yihsien city, having lately been sufficiently advanced to permit the transit of trains.

"A flourishing trade in coal has already sprung up on the railroad. At present the mines are shipping about four hundred tons of coal daily to Tai-er-chwang by rail and they hope to soon increase it to 900 tons daily. They claim the mines are now putting out eight hundred tons of coal a day and they have mountains of it waiting for shipment, the yards at the mines not yet having been adequately prepared for its proper transportation.

"There are second and third class passenger carriages which are doing a fair business. A first class coach is also under construction. For sixty li the charge for this class is twenty coppers (tung-tse) and for second class forty coppers. The second class passengers go in coaches and have free tobacco and tea and are allowed a hundred catties of baggage, while the third class travelers go tealess on a flat car with no locally manufactured cigarettes to solace them by the way. They have sixty catties of baggage free.

"Freight is in four classes: First class ten coppers per hundred catties, second class, nine, third class, eight and fourth class five. The fourth class comprises lumber, etc. Cheaper rates by the ton or car.

"Such is the combination of coal and iron ore in Southern Shantung along the line of the Tsinpu railway that the prospective railway kings are waging a battle as to who shall further tap the resources of Shantung's Pittsburg. Four lines are talked of.

"First, a line from Yihsien or from a point on the Tsin-pu line sixty li west of Yihsien to Kiaochow or some place on Kiaochow Bay. This line would go via Ichoufu city and would be an attempt on the part of China to gain some of the trade commanded by the German Railway running from Tsingtau to the interior.

"Second, a line from the same western terminal but going to Tsingkou, the main sea port of North Kiangsu, instead of to Kiaochow Bay.

"Third, a line from the coal field in a southeasterly direction to the proposed Hsuchoufu-Tsing-Kiangpu-Haichow road.

"Fourth, a line from the main line of the Tsinpu railway to the mines. This would be some thirty li in length. The point now under discussion is as to which company, the Taitsao or the Tsin-pu, shall reap the profits of its construction."

Light Railway for Malaya.—The government of the Federated Malay States proposes the construction of a light railway connecting Klang and Kuala Selangor.

The Canton-Kowloon (British Section).—Preparations are under way for the formal opening of this section, October 1. The iron frame work, axles and wheels for the passenger coaches, together with the structural steel for the work shops at Hunghom, arrived the latter part of August. The work of assembling the coaches at the Hongkong & Whampoa Docks is being expedited and in view of the fact that the bodies were completed awaiting the arrival of the materials, the coaches will be ready for the occasion. Sir Henry May and the Hon. W. Chatham, Director of Public Works, and party inspected this section on August 3.

Chinese Railway Program.—The Waiwupu is anxious to construct the Yunnan-Szechuan, the Szechuan-Tibet and the Yunnan-Kuangzi railways as soon as possible, and in view of the difficulty of securing local *capacity* for this purpose has recommended the arrangement for a foreign loan. The Ministry of Finance has expressed disapproval of this course and a conference was called the latter part of August to discuss the question. Taotai Lao Kuokjui has been selected to survey these lines and submit estimates.

Excursions on the Peking-Kalgan.—Arrangements have been perfected by the directorate of this line to run daily excursions to Nankou Pass from Peking to give foreigners an opportunity to view the Pataling Summit and the tunnel at this point which is the most famous monument to modern railway engineering effort to the credit of Chinese initiative.

Tientsin-Pukow Supplies.—The tenders received for the large contract to supply the southern section of the Tientsin-Pukow Railway with rails, fishplates, dog spikes, and fishbolts were recently opened, and the contract has been awarded to Jardine, Matheson & Co., who quoted Russian rails manufactured by the De Provine Steel Rail Mills and fastenings made in Belgium at $30.22 per ton for rails; $40.05 for fishplates, $46.57 for dog spikes, and $46.57 for fishbolts. The nearest competitor was Siemssen & Co., a German firm, which quoted Shelton iron (British). The only tender for American material was sent in by the Mitsui Bussan Kaisha, a Japanese firm, and this company quoted Carnegie steel rails at $32.73 per ton. The call for tenders was advertised in November last and called for 7,100 tons 85-pound steel rails, 525 tons fishplates, 155 tons dog spikes, and 44 tons fishbolts.

Chinese Eastern Indemnity.—The Chinese government has remitted Tls. 160,000 to the Chinese Eastern Railway to cover claim for lumber stolen by the Hunghutze on the Yalu.

The Pyingyang-Chinnampo.—This railway was completed August 14 according to the *Seoul Press*. It is 34 miles in length and construction was begun September 14, 1909.

Transiberian Schedule Reduced.—Twelve hours between Harbin and Moscow have been saved by the new schedule, effective September 1. The distance is now covered in eight days and two hours.

F. M. S. Railways.—The aggregate net profits earned by the F. M. S. Railways from the opening of the first line in 1885 to the end of 1909 amounted to $19,641,814, equivalent to 42.63 per cent. of the capital outlay. Last year, the dividend earned was 3.18 per cent. on a capital of $46,066,565, or a net profit for the twelve months of $1,468,180 as compared with 3.49 per cent. in the previous year.

Purchasing Agent of the Tientsin-Pukow (Southern Section).—Mr. Y. C. Tong has announced his appointment as purchasing agent for this section.

Change of Japanese Railway Officials.—Mr. K. Fujiti, director of the Railway Board, has been appointed to succeed Mr. S. Uyemura who recently resigned his position as chief of the Kyushu Railway Superintendence Bureau.

Antung-Mukden Construction.—It is announced that the 53 miles section between Antung and Chikuanshan will be opened to traffic in November. The locomotives and cars are being assembled at Antung.

Manila Railroad Company.—Offers were invited last month for an issue of £411,516 Manila Railroad Company (Southern Lines) First Mortgage Four Per Cent. Gold Bonds, due May 1, 1939, the equivalent of $2,000,000. The bonds are secured by a first mortgage on the whole of lines and the equipment thereof. Messrs. Speyer Brothers and the Hongkong and Shanghai Banking Corporation offer the bonds for sale at 86, equal to £176 19*s.* per bond of £205 15*s.* 2*d.* The subscription list will be opened simultaneously in New York by Messrs. Speyer and Co., and in Washington by the Bureau of Insular Affairs, United States War Department. The Government of the Philippine Islands guarantees payment of 4 per cent. interest per annum on the face value of the above $2,000,000 bonds. Any payments made by the Government under its guarantee are to be repaid to it only at the maturity of the bonds, and the lien of the Government to secure such repayment is subject to the lien of the mortgage securing the bonds. A letter from Mr. Horace L. Higgins, president of the company, is incorporated in the prospectus, says the *London and China Express*. It states that of the Southern lines approximately 60 miles are open to traffic. "From the operating results so far obtained it is confidently anticipated that the net revenue for 1910, the first complete year of operation, will already be about sufficient to meet the annual interest on the $2,000,000 bonds now offered. The 470 miles constituting the Southern lines will traverse a highly productive agricultural country, reaching all the important towns of Southern Luzon." The bonds appear to be a fair security, and should be attractive at present rates.

Australian Transcontinental Line.—The engineer in charge of surveys in his preliminary report states that the line would be 1,063 miles long on a 4-foot-8½ inch gage, with the ruling grade of 1 in 80, and with a minimum curve of 20 chains. He estimates that the line would, with the necessary equipment, cost $19,381,680 to build.

Indian Railways.—A comparison of earnings for the year 1909, compared with 1908, follows:

"Gross earnings, $156,866,666, an increase of $22,400,000; net earnings, $68,930,000, an increase of $9,915,333. The percentage earnings on capital invested—mileage earning revenue—was 4.81 as compared with 4.33 in 1908. Passengers carried numbered 329,000,000, and passenger earnings $51,200,000, an increase of 8,000,000 passengers and of $1,066,660 in earnings. The freight moved was nearly 61,000,000 tons, and the freight earnings amounted to $93,733,833, a decrease of 1,500,000 tons, but an increase of $6,000,000.

Australian Government Railways.—The American Vice-Consul at Sydney offers the following information regarding these lines:

"In 1909 there were 1,580 miles of railway in Australia owned by private companies, of which 943 miles were for general traffic and 637 miles for special purposes. The capital cost of these private railways, with the exception of 283 miles for which statistics were not available, was estimated at $15,091,233. The gross earnings in 1908 amounted to $2,276,608, and the working expenses to $1,320,136; the trains covered 1,389,883 miles, and carried 920,000 passengers and 1,627,000 tons of freight. At the date covered by these figures there were 16,653 miles of government railways open for traffic in the Commonwealth."

Kalgan-Suryan Railway.—The Chinese authorities have decided to rush the construction of this line and also the Kalgan Urga in view of increased Russian activity on Chinese borders.

Movement of Japanese Railway Officials.—Mr. Y. Kinoshita, Traffic Manager, and Mr. J. Aoki, Councillor, the Imperial Government

Railways of Japan, are in St. Petersburg attending the Russo-Japanese Through Traffic Conference. Mr. R. Fukao, the representative of the Osaka Shosen Kaisha at the Conference, joined them at Harbin.

Mr. S. Tanaka, Director S. M. R. Co., has wired from Brussels that the Europe-Far East Through Traffic Conference was opened on the 28th July, Thursday.

AUSTRALIAN RAILWAY SUPPLIES.—The Lorain Steel Company, an American firm, has secured a contract for supplying steel rails and fish plates to the Victoria Government to the value of $500,000 gold. The Worthington Iron Steel Co., a British firm, secured the contract for the supply of $790,000, gold, worth of rails and steel plates from South Australia in competition with Russia and German firms.

THE TOKYO RAILWAY.—The period for the completion of this system under its charter expires this year and news has been received that an extension of five years has been granted. In all, when completed, the system will comprise 237 miles of track, but 123 of which have been constructed.

THE PAKNAM RAILWAY CO., LTD.—This company, which operates a single track line 14 miles in length connecting Paknam with Bangkok, paid a dividend of 9% for the half year ended June 30, 1910, and 10% for the previous term. The paid up capital is 500,000 ticals. It will be remembered that last year this company increased its capital from Ticals 400,000 to Ticals 500,000.

THE PHILIPPINE PANAY-CAPIZ LINE OPENED.—This line connecting Iloilo and Capiz was formally opened last month, the Secretary of War driving the last spike during his Southern Philippine trip. This line represents the largest construction work financed by American capital in the Far East. It will probably take another year to substitute iron and concrete structures for the present temporary wooden bridges. The Philippine Railway Hospital at Iloilo has entered into an agreement with the Philippine government whereby all government employees are admitted for treatment on the same basis as railway employees.

JAPANESE RAILWAY FERRY.—The Railway Board has ordered two steamers of 3,000 tons each for service between Shimonoseki and Fusan in anticipation of increased traffic with the opening of the Antung-Mukden line.

SUPPLY OF INDIAN RAILWAY MATERIAL.—According to *Railways*, Messrs. Ewing and Company, Calcutta, Agents for Messrs. McKerrow and Company, Limited, the proprietors of the Sheffield-Twinbarrow System, have got a further order from the North-Western State Railway for the supply of the underframes and other materials of this pattern for certain bogie rolling-stock required on the Kalka-Simla 2 feet 6 inch gauge mountain line, *viz.*, 2 composite 1st and 2nd class carriages, ten 3rd class carriages, 4 postal vans and 8 covered goods wagons with water tanks. The Consolidated Brake and Engineering Company, Limited, are supplying 500 sets of automatic vacuum brake fittings and riggings for rolling-stock to the East Indian Railway, delivery to be completed in England by May 1910. The Vacuum Brake Company, Limited, London, are supplying the South Indian Railway Company with alarm intercommunication apparatus between passengers and the train staff in carriage stock. Messrs. Brinjes and Goodwin, Limited, have supplied a paint grinding machine to the Burma Railways and the Morgan Crucible Company, Limited, 130 crucibles. Messrs. Alldays and Onions' Pneumatic Engineering Company, Limited, London, have supplied a dozen workshop vices and Messrs. P. and W. Maclellan, Limited, Glasgow, 400 cwts. of copper ingots. Messrs. Horsely and Company, Limited, have supplied 20 feet by 100 feet bridge girder spans. Messrs. Kelvin and James White have supplied a number of voltmeters to the Bengal-Nagpur Railway. The Glasgow Iron and Steel Company, Limited, have in hand a large order from the same Railway for the supply of steel boiler plates and buffer beams. Messrs. Wilford and Company, Limited, are supplying 1,000 laminated bearing springs for rolling-stock and Messrs. Turton Brothers and Matthew, Limited, spiral and volute springs. Messrs. Burn and Company, Howrah, have the order of the North-Western State Railway for the construction in their own workshops at Howrah of four hundred goods wagons. Of these 200 are to be ordinary wagons built to the North-Western Railway specification and the remaining 200 wagons are to be built on Sheffield-Twinbarrow underframes and ironwork. Messrs. Burn and Company have also recently put in hand orders for a large number of girders, municipal requisites, sheds, chimneys, firebars, etc. The Bombay, Baroda and Central India Railway Company are providing two additional new 3-ton steam travelling broad gauge cranes at their Colaba wharves in Bombay in order to facilitate the handling of the traffic. Messrs. Ransomes and Rapier, Limited, Waterside Ironworks, Ipswich, are supplying hand-accident cranes with engine lifts to the South Indian Railway Company. Messrs. Ewing and Company, Calcutta, agents in India for Messrs. McKerrow and Company, the licencees of Sheffield-Twinbarrow Coal Wagon, supplied one of these wagons *free* to the Bombay, Baroda and Central India Railway for a six months' experiment. The trial having proved satisfactory the Railway Company have now purchased the wagon outright. Messrs. Vickers, Sons and Maxim, Limited, Victoria Street, Westminster, had in hand an order for the supply of Rolling-stock Steel Tyres to the Bengal-Nagpur Railway; also Messrs. Thos. Firth and Sons, Limited, and Messrs. Steel, Peech and Tozer, Limited. Messrs. Jessop and Company, Calcutta, have supplied a 10-ton steam road-roller to the North-Western Railway for road-making in stationyards and at stations. The Lancashire Dynamo and Motor Company, Limited, are supplying a milking booster to the East Indian Railway; Messrs. Greenwood and Batley, Limited, Armsley Road, Leeds, are supplying the same Railway with some electrically driven high lift pumps, which will probably be shipped to Calcutta next June. The foot overbridge at Galsi station on the East Indian Railway for which Messrs. Burn and Company are providing the necessary iron, steel and woodwork, together with two trestles and staircases, main girders, bracings, etc., complete, is 79 feet 6 inches long and the contract includes the erection of the work at site. Messrs. Birkmyre Bros. have obtained an order to supply the East Indian Railway Company with 150 paulins, 25 feet by 14 feet, with eyelets and 16 rope lashings each complete. Messrs. Bengal Timber Trading Company, Limited, have supplied 1,000 cwts. of teak-wood squares to the Rohilkhand and Kumaon Railway. An installation of 50 H. P. motor was being substituted for the existing 10 H. P. motor in Bangalore Railway Workshops, the property of the Mysore Durbar, but worked by the Madras and Southern Mahratta Railway as part of the Mysore State line. The Gourepore (Oil) Company, Limited, have a contract for the supply of 14,000 gallons of boiled linseed oil and 700 gallons of raw linseed oil to the Bengal and North-Western Railway. The Vacuum Oil Company, Limited, Calcutta branch, have an order from the Bengal and North-Western Railway for the supply of 5,500 cwts. of axle oil for rolling stock, 350 cwts. of locomotive cylinder oil and 170 cwts. of dark marine cylinder oil. Standard Oil Company of New York are supplying 40,000 gallons of Snowflake kerosine oil 150 degrees test and 60,000 gallons of Chester kerosine oil, 125 degrees test, to the Bengal and North-Western Railway. Messrs. Balmer, Lawrie and Company, Limited, had an urgent order for the immediate supply of two thousand barrels of Portland cement. Messrs. Turner, Morrison and Company have received an order from the Bombay, Baroda and Central India Railway Company for the supply of 6,000 gallons of boiled linseed oil and 800 gallons of raw linseed oil to the Rajputana-Malwa State Railway. The Metropolitan Amalgamated Railway Carriage and Wagon Company, Limited, Saltley, Birmingham, are supplying the underframes and other iron work for a large quantity of vehicle stock to the Burma Railways Company, namely, 330 covered goods wagons and 150 large cattle wagons.

KAIFENG-HANCHOW RAILWAY.—Peking advices announce the appointment of Chao Wen piao as engineer-in-chief of the Haichow-Chinking section of this proposed line.

SIAMESE RAILWAY CONSTRUCTION.—The *Bangkok Times* announces that laying steel by hand is proceeding from Singora, Trang and Petchaburi on the Southern Line while awaiting the arrival of steel laying machines ordered.

MANCHURIA RAILWAY PROJECTS.—There is some controversy over the construction of the Tetsurei-Kailiang railway proposed by Chinese merchants and recently ordered surveyed by the Viceroy. The merchants of Kaigen have put forth a plan to substitute a line running between Kailiang and Kaigen a distance of 360 miles compared to 340 miles involved in the former line. They claim that the line to Kaigen could be built for Tls. 4,000,000 while the other route would cost Tls. 8,000,000.

CHINESE RAILWAY REVENUE.—The Chief of the Railway Department announces that of the ten railways under his department, including the Peking-Hankow, Peking-Mukden, Chengtung Taiyuan, Tao-Ching, Pienliang-Loyang, Pinghsiang-Hsiangtan, Peking-Kalgan, Shanghai-Nanking, Kowloon-Canton, and the West Mansolea. Only two lines, the Peking-Hankow and the Peking-Mukden realized profits last year.

The result of investigation shows the following losses for different lines: Shanghai-Nanking, $605,000; Chengting Taiyuan, $363,000; Tao-Ching, $60,500; Pienliang-Loyang, $363,000; Peking-Kalgan, $90,750; West Mansolea, $9,075.

The Pingnsiang line realizes a profit, and the receipts for the Peking-Mukden line last year were about $6,655,000, and the Peking-Hankow about $5,808,000. For these two lines, after deducting the expenses and interest, there is a net profit of $5,445,000, which, after making up the above deficiencies, leaves about $3,932,500. This amount will be devoted to the construction of additional railways.

THE ACKLEY RAILWAY BRAKE IN THE EAST.—As a result of the visit of Mr. Griffin S. Ackley to the East the Ackley Brake Company has established agencies in Japan, China, the Philippines, and Australia and the brake has been introduced by substantial orders.

The firm of Messrs. Sale & Frazer, Limited, has undertaken the exclusive agency for Japan, Korea and Manchuria and substantial orders have resulted. The Ackley Brake is now being extensively used in Japan.

The China General Engineering Co. of Shanghai has the exclusive agency for China and the Shanghai tramways are already utilizing the brake with general satisfaction.

The exclusive agency for Australasia has been placed with Messrs. R. E. Cameron & Co. of Sydney, Melbourne, and Wellington. The contract was closed by Mr. Charles M. Terry on the part of R. W. Cameron & Co. as resident partner of the Sydney office. Mr. D. Bryant is general manager of the Melbourne office. The first order from Australia included a consignment of 132.

The famous brake has invaded almost every country in the world. It has been in 23 countries and patents are pending in many others.

The following from the *Electric Railway Journal* is of interest:

"Griffin S. Ackley, formerly president and general manager of the National Brake Company, Inc., Buffalo, N. Y., retired from the management of that company on Jan. 1, 1910. He has old his entire holdings of stock, constituting a controlling interest, to a syndicate of capitalists Mr. Ackley organized the National Brake Company over six years ago and was its president and general manager until the date of his retirement. Under his able management the company built up a very large business with Peacock & Ackley adjustable brakes throughout the world. The Ackley adjustable brake was put on the market less than a year ago. It is Mr. Ackley's own invention, and has been patented

# PHILIPPINE MINING NEWS

THE TUMBAGA MINE.—Attention has been called to a remarkable shipment to the Selby Lead and Smelting Works, San Francisco, of two and one-half tons of ore taken out of this mine situated in the Paracale District, which is estimated will run over $1,900 to the ton. This ore was developed in a four-inch stringer of calcite. During the development work which is still steadily progressing several small stringers of this character were met and the indications are that the main reef lies somewhere in that vicinity, each find proving wider than former ones.

NEW PARACALE MINING CO.—The Paracale Consolidated Mining Co. has been formed for the purpose of developing thirty placer claims in Paracale district which are reported to have shown satisfactory values on preliminary tests. The company is comprised principally of large number of owners who have consolidated their interests and it is proposed to place a sufficient number of shares on the market to carry out a program of development and operation.

THE GUAMA COMPANY.—The experts of the Philippine Exploration report favorably on the 52 placer claims comprising this group and it is expected that the control of the company will soon pass to the Philippine Exploration under the terms of an option held by it. The terms provided for the payment of ₱50,000 and to purchase for cash ₱275,000 worth of stock for which they would pay ₱300,000, the sum realized to be utilized in the purchase of machinery to develop the property.

The officers of the company are: D. M. Carman, president; Francisco Ortigas, vice-president; E. B. Soriano, treasurer; George Sellner, secretary. The officers and Mr. A. Burlingame Johnson are the directors.

Mr. Bridgman, the general manager of the Exploration, sailed for the United States the latter part of August accompanied by Mr. Kane for the purpose of securing machinery.

CLOSING OF GOVERNMENT COAL MINES.—After investigating the coal mining operations at Liguan, Batan, Secretary of War Dickinson ordered the mines closed for the reason that the cost of operating was not within appropriations available. He stated that until congress provided the necessary funds no further work would be done.

THE EAST BATAN COAL MINES.—This company has purchased the S. S. Yungsang for a collier to supply the product to the inter-island shipping trade. The price paid is said to be less than ₱100,000. This vessel has a carrying capacity of 29,000 tons.

RAGAY GULF TESTS.—The samples from tests of placer ground included in this company's property arrived last month and it is understood that they will run from 60 centavos to ₱1.20 a cubic yard. Prospecting of the copper and coal deposits is progressing. Engineer Yates is in charge of the investigation in the interests of the Ragay Gulf Exploration Co.

NUEVA ECIJA ACTIVITY.—The valley of the Cebu River is recognized as very desirable placer ground and for some years prospectors have been interested in testing out the best properties. This month the Cebu Valley Mining Company was launched with a capital of 500,000, 250,000 pesos of stock going to the owners for transfer of 192 hectares of ground and ₱100,000 offered at par. The prospectus directs attention to preliminary tests that in several instances ran over ₱4.00 a cubic yard and the promoters claim that in no instance did it fall under ₱2.00. These figures are based on the report of Chas. A. Powers, a mining engineer representing Boston capitalists. However, the promoters of this company while claiming these high values are basing their estimates on a return of ₱1.00 a yard and 20 centavos a yard for working charges. The directors of the company are F. W. Towle, T. B. Tolman, Juan Atayde, E. E. Elser, and J. B. Lewels, well known Manila businessmen.

The Dorr and Sprungli properties near Gapan have been undergoing an investigation by Mr. Powers and it is understood that, if tests prove satisfactory, Boston capitalists will invest.

Other properties are being tested and there seems to be unusual interest in this district during the last month.

ORANGE BLOSSOMS.—Judge Frank B. Ingersoll, one of the substantial pioneer mining men of the Philippines who is largely responsible for the wide interest now taken in Paracale, has joined the Benedicts. The charming bride was Miss Joshena Stone Mekeel, daughter of Mr. and Mrs. Mekeel of Santa Barbara, California. The marriage took place at the residence of the bride's uncle, Mr. E. F. Blaine, Seattle, on June 20, and their wedding trip included the return voyage to the islands. Judge and Mrs. Ingersoll are at home to their friends at their delightful residence, Santa Mesa Heights, Manila.

# CONTRACTING NEWS

CONTRACTS AWARDED.—Municipality of Shanghai, Transformers, High Tension Switch Gear and Cables.—The *Gazette* publishes the acceptance of tenders as follows:

(i) Four 470 K. V. A. 2 to 3 phase step up Transformers:
The Allgemeine Elektricitats Gesellschaft .......... £950 0 0

(ii) Extra High Tension Switchgear:
The British Westinghouse Co., Ltd .......... £860 0 0

(iii) Extra High Tension Underground Mains and Feeder pillars:
The Lahmeyer Electrical Works .......... £4,010 1 2

The following further tenders were also received:—

| (i) Transformers. | £ | | |
|---|---|---|---|
| Burnand & Co | 960 | 0 | 0 |
| Brush Elect. Mfg. Co | 1,072 | 0 | 0 |
| Johnson and Phillips | 1,091 | 0 | 0 |
| Maschinenfabrik Oerlikon | 1,108 | 0 | 0 |
| The Lahmeyer Electrical Works | 1,123 | 0 | 0 |
| Swedish General Electric Co | 1,180 | 0 | 0 |
| British Westinghouse Co | 1,252 | 0 | 0 |
| Adnil Electrical Co | 1,312 | 0 | 0 |
| Inniss and Riddle | 1,312 | 0 | 0 |
| British Electric Transformer Co | 1,332 | 10 | 0 |
| J. Morrison | 1,372 | 18 | 0 |
| Drake and Gorham | 1,398 | 10 | 0 |
| Alioth Company | 1,465 | 0 | 0 |
| Siemens Bros. & Co | 1,645 | 0 | 0 |
| Brown Boveri & Co | 1,549 | 0 | 0 |
| (ii) Switchgear. | | | |
| Johnson & Phillips | 685 | 0 | 0 |
| Ferranti, Ltd | 686 | 8 | 0 |
| Siemens Bros | 840 | 0 | 0 |
| Cowans, Ltd | 854 | 0 | 0 |
| Spagnoletti, Ltd | 867 | 0 | 0 |
| The Lahmeyer Electrical Works | 879 | 0 | 0 |
| Elec. Construction Co | 957 | 10 | 0 |
| Drake & Gorham | 957 | 10 | 0 |
| British Thomson-Houston Co | 962 | 10 | 0 |
| British Westinghouse Co | 981 | 0 | 0 |
| A. E. G | 1,100 | 0 | 0 |
| Crompton & Co | 1,129 | 15 | 0 |
| Brown Boveri & Co | 1,154 | 0 | 0 |
| Adnil Electrical Co | 1,206 | 4 | 0 |
| General Electric Co | 1,236 | 0 | 0 |
| Reyrolle & Co | 1,257 | 0 | 0 |
| Maschinenfabrik Oerlikon | 1,397 | 4 | 0 |
| (iii) Underground Mains, etc. | | | |
| Adnil Electrical Co | 4,186 | 18 | 6 |
| Inniss & Riddle | 4,186 | 18 | 6 |
| Henley's Tel. Cable Works | 4,270 | 7 | 2 |
| British Insulated Co | 4,337 | 11 | 8 |
| Johnson & Phillips | 4,397 | 9 | 6 |
| W. T. Glover & Co | 4,561 | 0 | 0 |
| Drake & Gorham | 4,578 | 19 | 0 |
| General Electric Co | 4,590 | 19 | 0 |
| Western Electrical Co | 4,677 | 18 | 4 |
| Callender's Cable Co | 4,740 | 16 | 5 |
| Siemens Bros. & Co | 4,965 | 0 | 0 |
| Aubert Grenier & Co | 7,729 | 0 | 0 |

SUPPLY OF CEMENT.—The following tenders were accepted:

Ilbert & Co., "Dragon" Haiphong. 350 casks per mensem at Tls 3.20 per cask.

Hupeh Cement Works "Pagoda." 100 casks per mensem at Tls. 2.80 per cask.

Shewan, Tomes & Co., "Green Island." 100 casks per mensem at Tls. 3.50 per cask.

The remaining tenderers are as follows:
Chee Hsin Cement Co., Ltd., Tls. 3.38 per cask.
East Asiatic Co., Ltd., Tls. 3.44 per cask.
Mitsui Bussan Kaisha, Tls. 3.50 per cask.
Dodwell & Co., Ltd., Tls. 3.51 per cask.

BUREAU OF PUBLIC WORKS, MANILA.—Construction two storehouses, 105 meters by 45 meters each, one to be two storeys and of reinforced concrete. Tenders were:

The Atlantic, Gulf and Pacific Company, to construct the buildings in 18 months for the sum of ₱348,600; the Manila Construction Company, in 480 days for ₱385,775; M. B. Zarate in 500 days for ₱729,500; R. M. Loper in 450 days for ₱381,000; and the Manila Sawmill Company in 540 days for ₱596,000.

CHIEF QUARTERMASTER, MANILA.—Railway material No. 40 rails.—Awarded Messrs. H. R. Cooper & Co., ₱9,000. The other bidders were: Castle Bros.-Wolf and Sons, Derham Brothers, Mariano Uy Chaco, C. E. Helvie.

MANILA HOTEL.—Furniture.—Lowest bidder, The Cadwallader-Gibson Lumber Co., approximately ₱60,000.

BANGKOK PUBLIC WORKS.—Cement for Crown Prince's New Palace—5,000 casks—Awarded Messrs. E. C. Monod et Fils representing Haiphong Dragon brand.

PROPOSALS INVITED.—Philippine Public Works, Cebu Water Works.—Sealed bids will be received by the Director of Public Works until 11:00 a. m., November 15, 1910, and thereupon opened, for the furnishing of material for and the construction of Osmeña Water Works System for the Municipality of Cebu, Cebu, Philippine Islands.

---

in more than 20 countries. It has already been introduced on over 200 street railways, many of which are in Europe, where sales agencies have been established in London, Berlin, Brussels, Paris and Zurich. The National Brake Company has purchased from Mr. Ackley all the United States, Canadian and Mexican patents on the Ackley adjustable brake and will continue to have the exclusive right to sell these brakes on the North American Continent. Mr. Ackley in turn has acquired from the National Brake Company all of the export business and good will in the Peacock and Tiger brakes in addition to the Ackley brake. He is still the sole owner of the patents of the last-named brake for all countries except the United States, Canada and Mexico. He will, however, have the sole right to sell all of the different types named throughout the world outside of the North American countries noted under the name of the Ackley Brake Company. The new company's headquarters will be in the Hudson Terminal Buildings, New York City, and additional forcing agencies will be established by it in countries where the company has no representatives."

The proposed works will consist of a circular reinforced concrete dam with intake appurtenances and valve chamber; a concrete spillway; a 4,000,000 gallon reservoir in excavation; a 14" and 16" main pipe line six and a half kilometers long; a distribution system 4" to 14" diameter pipe twenty-one (21) kilometers long; and the necessary gates, valves, valve boxes, fire hydrants, and appurtenances.

Specifications, general plans, and blank forms of proposal may be obtained at the office of the Director of Public Works, Manila, P. I., and from the office of the District Engineer, Cebu, P. I.

---

MUNICIPALITY OF SHANGHAI.—Paving Blocks.—The Council is prepared to receive tenders for the supply and delivery of 280,000 Australian Hardwood Street Paving Blocks.

Particulars and specification may be obtained upon application at the Public Works Department, Hankow Road, between the hours of 10 a. m. and 5 p. m.

Sealed tenders endorsed "Tender for Wood Blocks" will be received by the undersigned not later than noon on Friday, October 7, 1910.

---

ELECTRICAL SUPPLIES.—The Council is prepared to receive tenders for the supply and delivery of:—

12. Electric Heating and Cooking Appliances.
13. 10,700 Carbon Filament Lamps.
14. 15,000 Metallic Filament Lamps.

Conditions, specifications, forms of tender and all necessary information may be obtained upon application to the Electrical Engineer, Mr. T. H. U. Aldridge, at the Electricity Works, 31 Fearon Road.

A charge of Tls. 10 will be made for each specification, which will be returned upon the receipt of a *bona fide* tender.

Sealed tenders will be received by the undersigned as follows:—

12. Marked "Tender for Heating and Cook ing Appliances" not later than noon on Thursday, October 10, 1910.

13. Marked "Tender for Carbon Filament Lamps" not later than noon on Thursday, October 20, 1910.

14. Marked "Tender for Metallic Filament Lamps" not later than noon on Thursday, October 20, 1910.

---

EXECUTIVE BUREAU, PHILIPPINE ISLANDS.—Franchise Water Supply and Electric Power System.—Sealed proposals addressed to the undersigned and plainly marked "Proposals for a franchise for the erection, construction, maintenance and operation in the municipality of Zamboanga, Moro Province, Philippine Islands, of an electric light, electric power, and water supply system" will be received at the office of the Executive Secretary of the Philippine Islands until eleven o'clock a. m., Monday, October third, nineteen hundred and ten, and then opened, for a franchise for the erection, construction, maintenance and operation in the municipality of Zamboanga, Moro Province, Philippine Islands, of an electric light, electric power, and water supply system as provided for in Act No. 1995 of the Philippine Commission, to which Act bidders are especially referred. Bidders must state their address, the percentage of the gross earnings they will pay in lieu of provincial and municipal taxes on the franchise or earnings thereof, which percentage shall not be less than one and one-half per centum of such gross earnings, and the highest rates they will charge to subscribers for use, services, and supplies thereunder, which rates shall be subject to approval by the Board of Rate Regulation created by Act No. 1779. Each bid must be accompanied by a certified check for Two thousand (₱2,000.00) Pesos, payable to the order of the Governor of the Moro Province, as a guarantee of good faith and that the successful bidder will accept the franchise by filing written acceptance thereof with the Secretary of Commerce and Police within ninety (90) days from the date of the award of this franchise. Written notice may be served upon such bidder by the Executive Secretary of the acceptance of his bid, by depositing same in a securely sealed wrapper in the Post Office, postage prepaid directed to such bidder at his said address. Should such successful bidder neglect or refuse to accept said franchise in the manner, within the time and after service of notice as aforesaid, said check and the sum of money named therein shall forthwith be and become forfeited to the municipality of Zamboanga, Moro Province, as and for liquidated damages caused to the said municipality by such neglect or refusal. The right is hereby expressly reserved to reject any and all bids, or to waive any defect or defects in any bid. The successful bidder will be required to pay the cost of this advertisement. Copies of said Act No. 1995 and all necessary information may be obtained from the Executive Secretary.

By authority of the Governor-General:

F. W. CARPENTER,
*Executive Secretary for the Philippine Islands.*

---

PHILIPPINE CARNIVAL ASSOCIATION.—Bids will be received for exclusive concessions on the grounds during the 1911 carnival covering any attraction or refreshment feature. They will be opened November 5. Address: Lieut. Frank Adams, 12th Infantry, U. S. A., Assistant Director, Manila, P. I.

# NEW CANDLE FACTORIES FOR SHANGHAI

The making of candles has been reduced to an art, a science and degree of economy excelled by no other industry.

Candles are made of paraffin, a by-product of crude oil. In the modern factory there is absolutely no waste in making candles from paraffin, as for every 1,000 pounds of raw material which the candle maker receives he turns out 1,000 pounds of candles. The paraffin is received at the candle factory in cakes.

On the top floor these cakes are placed in tanks, where they are melted. In liquid form paraffin is thinner than water. The tanks are very large, some of them holding 5,000 gallons each. In these tanks the liquid is kept constantly moving to prevent its chilling. From here it is allowed to flow to the floor below, where it enters into the candle machine.

### 1,000 IN ONE LOT.

The candle machines proper are the most interesting of all the equipment and facilities and represent a great amount of inventive genius and accomplishment. Instead of moulding candles a few at a time, nearly 1,000 candles can be moulded on one large machine at one time.

At the bottom of the machine are bobbins which furnish wicks to the candles, each bobbin containing sixty yards of wick. Near the top of the machine are the moulds proper, and into these the wick is fed from the bobbins below, there being one bobbin for every mould. The moulds are arranged in a kind of iron box, and this box is connected with both cold water and steam pipes.

With the wicks in place in the moulds and the hot paraffin poured in, the cold water is ushered into the iron box and circulates about the outside of the moulds. When ready the candles are lifted out of the moulds all at once by a mechanical operation and up into a rack. The same movement of the candle machine which lifts the candles from the moulds also rewicks the moulds. In order to adequately cool the candles during certain seasons of the year it is necessary to use ice, and many tons of ice are often brought to the candle factory at a time.

Great skill is required on the part of the candlemaker in selecting the wick and in making the size and composition of the candle suitable to the wick with which it is to be used. Unlike the wicks of the old tallow candle, the modern ones consume themselves as the candle burns. This, of course, does away with the necessity of the old time snuffers. In order that a wick will thus consume itself as rapidly as it should it must be of a certain quality of cotton fibre, must be twisted or braided, and sometimes treated. Some wicks comprise only four threads, others as many as sixty.

When it is considered that there are several hundred different sizes of candles made of paraffin, and that every one of these must conform in size and composition to the size of the wick to be used, the necessity of skill is at once apparent.

### MIXING THE COLORS.

In the making of colored candles another important feature of the industry enters. The mixing of the colors of the many shades and tints desired is done in a separate apartment and the raw material then fed into the machines from pails instead of from pipes leading from the vats on the upper floor.

The packing of finished candles is done by girls. The least defect, even such as a slight chip off some part of the candle or a slight soil, means that it will be thrown out. The girls who do this work become very proficient in it and do it with remarkable rapidity.

---

Candles form a large and valuable item in the imports of foreign goods into China, and competition has been keen amongst local agents. At one time the great British manufacturing firm of Price & Co. controlled the trade, but Continental manufacturers entered the field and have secured a large share of the business.

It is not surprising to hear that in order to hold this rapidly increasing and profitable trade, foreign manufacturers have decided to erect factories in Shanghai and with lower labor cost, place the goods on the market at a price defying European competition. It is reported that the British firm of Piece & Co. have purchased a large tract of land on Soochow Creek in the Markham Road district, on which they will erect one of the largest candle factories in the world, and the firm of L. Soyka has also closed the contract for another large factory to be erected in Pootung. A large German firm will also erect a factory in Pootung, making three new industrial establishments for Shanghai.

With the employment of modern machinery and the low labor wages of China, candles can be turned out in Shanghai at rates defying foreign competition, and as the demand for cheap illuminations throughout the Empire is enormous, the success of the new enterprises seems assured.

## RUBBER FROM BANANA JUICE

**Extensive experiments are being made in regard to the extraction of rubber from the juice of the banana plant. The original investigator was Mr. George C. Benson and the following excerpt on the subject is taken from *The Georgetown Daily Chronicle*, British Guiana:**

**"About two years ago, whilst experimenting with some banana juice, so as to find out how best to mordant it, a thick and pliable rubber was found to attach itself to the sides of the enamel dish which held the juice. The rubber was ultimately sent to England and to America, and it was found to be what is known as a synthetic rubber, and when compounded with other rubbers it appeared to have a distinct market value, by increasing both the weight and the value of the rubbers with which it was compounded. This fact is about to be put to the severest test, and numerous samples are to be sent to the best judges both in Europe and America.**

**Just what process is used or to what extent the alleged banana rubber may enter into competition with the real product should the experiments prove successful does not appear.**

# FAR EASTERN ENGINEERING, CONSTRUCTION, COMMERCIAL AND FINANCIAL NEWS

## ELECTRIC RAILWAYS, LIGHT, POWER, TELEGRAPHS, TELEPHONES, MOTORS, AIRSHIPS, ETC.

PHILIPPINE LONG DISTANCE TELEPHONES.—Manager Noble of the Philippine Telephone and Telegraph Co. has completed arrangements to instal a long distance system including connections between Baguio, Batangas and Los Baños so that each of these points would be reached from Manila. After these extensions, representing an outlay of P300,000, it is the purpose of the company to connect Cebu, Iloilo and Zamboanga with the capital. In this connection it will be necessary to lay a submarine cable between those three points.

KOREAN CABLE CONNECTIONS.—A Tokyo dispatch is to the effect that the Japanese government has opened negotiations with the Great Northern Telegraph Co. for the purchase by the former of the cable across the Korean Channel.

AIRSHIPS FOR CHINA.—Prince Tsai Tao is greatly interested in aerial navigation and has proposed that a number of officers be sent to foreign countries to study methods.

NEW PORT ELECTRIC RAILWAY EXTENSIONS IN MANILA.—The plans for the lines that are to connect the new port with the Manila Electric Railway system are completed and approved, and, with the return of General Manager Graves from the United States, active operations on construction are expected. These extensions include a double track from Bagumbayan Drive to the Quartermaster's wharf with a loop involving the line of wharves and will serve for the transportation of passengers and freight. The line will pass the sites of the new hotel and of the new custom house.

OSAKA SHOSEN WIRELESS.—The installation of wireless on the coastwise steamers of this line has been decided upon as a result of the Tetsurei Maru disaster. Stations will be established at different points along the Korean coast. Application has also been made for permission to instal apparatus on the American line.

TOKYO ELECTRIC SUPPLY.—The Kinugawa Hydro-Electric Company has obtained a charter covering a period of 25 years to supply electric power to the Tokyo railway. The wires are to be placed underground.

PEKING TELEPHONES.—The telephone bureau has begun the work of installing the underground cables of the telephone lines as directed by the Board of Posts.

BRITISH IMPERIAL WIRELESS.—It has been estimated by British experts that twenty wireless stations and the expenditure of £1,000,000 would connect the different possessions of the British empire by wireless and inaugurate a penny a word service at a cost for maintenance of £1,200,000 a year.

The cost would of course be bourne in part by each of the different colonies. A few suggestions for the system follow:

Montreal to Sydney:—Montreal to Glace Bay; Glace Bay to Vancouver; Vancouver to Hongkong; Hongkong to Singapore; Singapore to Perth; Perth to Adelaide; Adelaide to Sydney.

England to Wellington, New Zealand:—England to Gibraltar; Gibraltar to Malta; Malta to Alexandria; Alexandria to Aden; Aden to Bombay; Bombay to Colombo; Colombo to Singapore; Singapore to Perth; Perth to Adelaide; Adelaide to Sydney; Sydney to Wellington (New Zealand).

England to China:—England to Gibraltar; Gibraltar to Malta; Malta to Alexandria; Alexandria to Aden; Aden to Bombay; Bombay to Colombo; Colombo to Singapore; Singapore to Hongkong.

England to Africa:—England to Gibraltar; Gibraltar to Aden; Aden to Mombasa; Mombasa to Durban; Durban to Cape Town. Alternatively—England to Bathurst; Bathurst to Sierra Leone; Sierra Leone to St. Helena; St. Helena to Cape Town

AUSTRALIAN ELECTRIC TRAMWAYS.—The following from the American Consular reports shows the extent of electric railway operations for 1909:

| State. | Miles. | Passengers carried. | Capital (cost). | Gross revenue. | Working expense |
|---|---|---|---|---|---|
| New South Wales | 105 | 173,733,000 | $18,255,185 | $1,917,440 | $3,829,728 |
| Victoria | 34 | 7,497,000 | 1,413,370 | 321,479 | 246,985 |
| Queensland | 31 | 29,732,000 | ........ | 934,437 | ........ |
| Western Australia | 47 | 13,136,000 | 4,707,231 | 691,004 | 446,012 |
| Tasmania | 9 | 2,677,000 | 431,110 | 130,194 | 75,087 |
| Total | 226 | 226,775,000 | 21,806,899 | 6,994,551 | 4,597,812 |

The number of employees is given as follows: New South Wales, 5,523; Victoria, 312; Queensland, 614; West Australia, 354; Tasmania, 105; total, 6,908.

JAPAN FIRST AIRSHIP.—The trial flight of the airship invented by Isaburo Yamada took place this month. Described, his airship measures 30 meters in length by 11 meters. The experiments conducted were made with a 14 h. p. motor and eleven miles an hour, carrying two men, resulted. The installation of a 30 h. p. motor is expected to bring the speed up to 32 miles. The invention represents ten years' application.

SHANGHAI ELECTRIC TRAILERS.—Four trailer cars especially designed for native traffic have been placed on this system. The bodies were constructed of teak in local Chinese shops and the cars assembled by the company. An adjustable panel regulates the central entrance to the car so that in opening it on one side it closes it on the opposite. The seats are placed around the inside of the car and may be dropped to accommodate freight traffic. These cars will be used on the lines connecting with the railway station.

FUJI-MINOBU TRAMWAY.—A company capitalized at yen 2,000,000 has been organized for the purpose of constructing a line from Gotemba to Minobu, approximately 30 miles.

MOTOR SERVICE IN THE F. M. S.—The use of the motor driven omnibus in the Federated Malay States as a feeder for the excellent railway system has been successfully operated for four years for the carrying of freight, express, passengers and mail, says the *Commercial Motor*. The first line was inaugurated in 1906 to connect the town of Tapah with the station at Tapah Road in Perak, a distance of eight miles. Two 18 h. p. single-decked G. W. Ry.—type Milnes-Daimler omnibuses—were utilized with capacity for 18 third class and five first class passengers. In 1907 the eight miles between the mining town Chendderi and the railway at Temoh were covered by three of the same type of motor vehicles.

In the same year a motor line was opened connecting Kuala Selangor with Klang on the Kuala Lumpur line, a distance of 28 miles. Omnibuses of 28-32 h. p. were substituted for 18 h. p. and the carrying capacity increased.

In the latter part of 1907 a motor service was established between Kuala Kabu in Selangor and Raub in Pahang, a distance of 44 miles, including 35 miles through the Semankok Pass covering an altitude of 2,700 feet, the grade being about one in thirty on either side of the watershed between Selangor and Pahang. Four 16 h. p. wagonettes for mail and three 30-40 h. p. cars for express and passengers are used.

Kuala Lipis, the capital of Pahang, was also connected with the railway by way of Raub, a distance of 39 miles where it connects with the Raub-Kuala Kubu line above referred to and one 18 h. p. car has been in service.

The mining town of Benton is also connected with the Raub-Kuala Kubu motor line at a point called Tranum, this feeder being 21 miles in length. The single car service of this line runs from Benton via Tranum to Raub daily. These lines placed the principal points in Pahang within 24 hours of Kuala Lumpur.

ANHUI TELEGRAPHS.—The sum of Tls. 28,000 has been appropriated from the provincial treasury for the installation of telegraph connections between Ning Kuo-fu and Hinchow-fu, a distance of 160 miles.

MALACCA TELEPHONE EXCHANGE.—The Straits Settlements Government has authorized the expenditure necessary to instal this desirable telephone system.

SHANGHAI PUBLIC LIGHTING.—The following quotations for public lighting, submitted by the Electrical Engineer, were approved recently by the Municipal Council:

| | Per annum. |
|---|---|
| Flame Arcs on long brackets | Tls. 178 |
| Flame Arcs on short brackets | Tls. 170 |
| Enclosed Arcs on long brackets | Tls. 148 |
| Enclosed Arcs on short brackets | Tls. 140 |
| 60 C. P. metallic filament lamps | Tls. 23 |
| 200 C. P. metallic filament lamps | Tls. 60 |
| 400 C. P. metallic filament lamps | Tls. 100 |

CHINA LIGHT AND POWER CO., LTD.—The total balance of $50,242.22 to the credit of profit and loss for the year was written off as depreciation. The cash on hand amounted to $165,828.43 which will be absorbed by cost of new plant at Kowloon. The directors expect increased earnings the current year.

SARAWAK WIRELESS—Rajah Brooke is now in England and proposes establishing a station there, if it be feasible, to make connections with Singapore.

## PUBLIC WORKS, DOCKS, WHARVES, BUILDINGS, ETC.

WHANGPOO CONSERVANCY.—The total volume moved by the two dredgers from the Channel bank and the Astrea channel during the quarter ended June 30 reached 419,065 cubic yards. This was deposited against and above the closing dam, ship's channel and the bunding at Woosung.

F. M. S. PUBLIC WORKS.—The total expenditure on Public Works, including establishments, in 1909 amounted to $6,797,402, distributed as follows:—

| | |
|---|---|
| Federal | $ 629,341 |
| Perak | 2,166,599 |
| Selangor | 2,052,426 |
| Negri Sembilan | 993,646 |
| Pahang | 955,390 |
| Total | $6,797,402 |

The expenditure is less than in 1908 by $1,098,809, and less than the estimate by $1,985,334. Personal emoluments amounted to $464,855, the percentage of salaries to the total expenditure being 6.84.

The lengths of road open for traffic at the close of the year gives an increased mileage in metalled roads and bridle paths of 116 miles and 75 miles, respectively, with a decrease in unmetalled roads of 20 miles.

The quarantine station at Pulau Jerejak is being constructed on joint account by the Public Works Department of the Colony, and it is anticipated that it will be ready for occupation during the current year. The station is capable of sheltering some 3,000 to 4,000 persons.

RECLAIMED LAND AT TOKYO.—The municipal authorities are now in possession of 59,000 square yards of land reclaimed at Toranomon, Kotohiracho and Nichi-saiwarcho which it is proposed to sell at yen 10 a yard or rent at one yen a yard per annum.

PHILIPPINE IRRIGATION.—The municipal presidentes have been directed to supply the chief irrigation engineer with full information respecting existing irrigation systems in his jurisdiction under the following heads:

(a) The name of the cabecilla.
(b) The names of the property owners.
(c) The area covered.
(d) The length of the main canal.
(e) The source of supply.
(f) The quantity of water claimed.
(g) The date of original appropriation.
(h) A statement as to continuity of appropriation.

The extensive irrigation program of the Philippine government includes three large projects under way covering approximately 18,000 hectares of lands. The Bued River project now under investigation covers large areas in Pangasinan and Union Provinces in northern Luzon, the Pototan project, the San Miguel and the Cordova Santa Barbara systems in Panay are under construction. Up to the present time ₱2,250,000 are available and an annual appropriation is provided until the end of 1912. The benefits of irrigation are being appreciated in Cavite where the land included in the Imus system returns 100 cavans of rice to one planted where the returns do not exceed 40 cavans outside the irrigated district.

PERMANENT ARMY QUARTERS IN PHILIPPINES.—In the estimates prepared by the War Department for the year, provision has been made for the construction of reinforced concrete buildings for the housing of American troops.

MANILA HARBOR IMPROVEMENTS.—Collector McCoy has recommended the construction of two additional piers at the new port, a new custom house, a bridge across the Pasig at the foot of Calle Rosario, the occupation of space along the river banks by commercial firms, the dredging of the deep water section of the harbor to 35 feet and outside the Luneta Extension to 30 feet, the closing of the gap in the breakwater, the dredging of a new channel round the south and new immigration buildings.

CHINA MUTUAL EXPANSION. — Secretary Hughes recently made the annnouncement that it was the purpose of the company to erect a large office building in Manila.

IRRIGATING WELLS IN SHANTUNG.—As a result of an effort to combat the effects of a serious drought in this province in 1909, 3,560 wells were dug by the farmers and over 7,000 acres of land supplied with an abundance of water distributed by hand. An effort is now being made to supplant the rope windlass by windmills.

IRRIGATION IN VICTORIA.—Consul Jewell of Melbourne gives the following information respecting this line of endeavor:

"The government has spent $33,500,000 on works to supply water for irrigation, domestic, and stock purposes. Of this, $12,500,000 has been expended on irrigation works, which command 1,100,000 acres, and which now supply water for 350,000 acres; but additional reservoirs will be needed before the remainder of the area can be fully irrigated. A complete water supply for irrigation is assumed to be water enough to cover the land to a depth of 2 feet each irrigation period, the water to be measured at the place of use. The surplus water is sufficient to irrigate 250,000 acres, and settlers are required to utilize it.

The most important irrigation work is the diversion of the water of the Goulburn River, which rises in the highest mountains, where the annual rainfall reaches 60 inches, and during about six months of the year carries an immense volume of water, of which a considerable part will have to be stored to provide for the remaining six months. There are two main channels of the Goulburn scheme which have an aggregate length of about 150 miles. The weir at the head of the channel is a masonry structure about 50 feet high, and cost about $500,000. The eastern channel, now complete, is about 30 miles long. The western main channel, nearing completion, is over 100 miles long, and carries 1,750 cubic feet a second; 12 miles from the head it empties into a reservoir, which holds 196,000 acre-feet, the entire storage under the system being about 220,000 acre-feet. Surveys have also been made for an additional reservoir, which will hold 850,000 acre-feet of water. At present about 50,000 acres are being irrigated, and there is water available for an additional 200,000 acres.

The State also has a series of works diverting water from the Murray River, the largest stream in Australia, and navigable during six months of the year for about 1,000 miles. When the river is at high level, water may be obtained by gravitation, but when it falls to "summer level," it has to be pumped, and the state pumping plants in operation are capable of lifting 575 cubic feet a second.

PORT ARTHUR WATER SUPPLY.—Work on the new water supply to cost yen 50,000 was begun last month and is expected completed next June. The water is to be carried five miles from an intake at Takushan mouth of the city and will include a supply of 1,200 cubic meters daily.

MANILA HOTEL.—The corner stone of this institution was laid by Secretary of War Dickinson, September 2.

HAIPHONG HARBOR IMPROVEMENTS.—The Haiphong Chamber of Commerce has been authorized to float a loan of 1,500,000 francs for the purpose of improving the harbor there. Tonnage dues are to be levied to meet the charges.

YOKOHAMA WATER WORKS.—The sum of yen 127,000 has been authorized expended for the installation of a new pump near the reservoir and other repairs.

PORT ARTHUR HARBOR.—The South Manchuria Railway Company will, in the near future, undertake the work of cutting a canal from the western harbour at Port Arthur to the open sea at an estimated cost of Y1,500,000.

CHINGHAI NAVAL PORT.—The sum of yen 8,000,000 has been authorized expended in the development of a large naval station at this point covering ten years' activity.

## SHIPBUILDING, GENERAL MARINE AND FISHERIES

THE HONGKONG AND WHAMPOA DOCK COMPANY, LTD.—The report of the directors for the half-year ended June 30th shows a total to the credit of profit and loss of $148,940.00, including $132,765.92 brought forward from previous account. During the six months the company completed 13 vessels consisting of steam launches, motor boats and lighters, also several marine boilers and a large number of forgings and castings. Under construction there were two steamers, four steam launches, two motor boats, sixteen railway cars and a large number of marine boilers, four of which are for the s. s. Heungshan. The work of extension of No. One Dock was completed, and is now sufficiently large to accommodate the largest vessel visiting Hongkong. The cost of this work amounted in all to $225,137.01. The total plant now stands at a valuation of $3,736,363 while the invoice value of stock and materials on hand is $881,151 and the amount expended on work underway at the end of the term amounted to $141,413.

NEW T. K. K. STEAMER.—The new sister ship of the Tenyo and Chiyo now being built by the Mitsu Bishi Dockyards at Nagasaki will be named the Shunyo-Maru. She is expected completed next July.

P. & O. FLEET.—The steamers Maloja and Medina will be added to the fleet early next year. The dimensions follow:

Length, 550 feet; breadth 62 feet 6 inches; depth 39 feet 3 inches. It is calculated that with their 15,000 horse-power the average speed will probably be nearly nineteen knots an hour. Each of the new steamers will have accommodation for 462 first and 216 second saloon passengers.

NEW YACHT OF H. I. H. PRINCE TSAI HSUN.—Last month the trial trip of this vessel built by the Kiangnan Dock and Engineering Company at Shanghai took place and an average of 13.5 knots was realized without effort and the vessel will do 14 knots or more. A brief description of the Lien-Chin follows: length between perpendiculars 150 feet, over all 173 feet, breadth moulded 25 feet, depth moulded 12 feet 6 inches, displacement 500 tons, with a mean draft of nine feet. She is equipped with two sets of triple expansion engines 10 in., 16 in. and 26.5 by 18 in. stroke. The power is supplied by two cylindrical boilers indicating 900 h. p. under 180 lbs. pressure. The accommodations on board are modern and include spacious quarters for the Prince and suite.

MOTOR CANOE FOR MALAYA—The Shipping Gazette announces the construction by Thornycrafts of a steel canoe 63 feet in length with a moulded breadth of nine feet and a depth of two feet, ten inches, and drawing fourteen inches of water with a cargo of four tons, for survey service on the Pahang River. She will also be utilized for carrying mail, government stores and small bodies of troops. She will have a speed of 11 knots. Her hull is divided into six watertight bulkheads and she is fitted with a six cylinder paraffine engine with two screws on one shaft.

EASTERN AND AUSTRALIAN STEAMSHIP COMPANY.—The directors' report shows that the profit amounts to £28,104. Depreciation has been written off to the extent of £12,650, leaving a credit balance of £15,454. From this has to be deducted the debit balance brought forward from last year of £4,820, leaving £10,634. The directors recommend that £10,000 be replaced to the underwriting account from which it was taken in 1907, carrying forward £634.

CHINA AND MANILA STEAMSHIP COMPANY.—The steamers Zafiro and Rubi of this line have been transferred to the American flag in order to participate in Philippine coastwise shipping trade.

SIAMESE MOTOR FISHING BOAT.—A Siamo-Chinese owner of fishing stakes, says the *Bangkok Mail*, recently installed a 40-h. p. paraffine motor in a boat 45 feet in length, 13 foot beam and 6 feet in depth giving a speed of 9 knots. The hull was built in Tacheen.

SIAM STEAM NAVIGATION COMPANY.—The report fot the half year shows a net profit of Ticals 182,261.91 on a capital investment of Ticals 2,000,000. During the half year the s. s. Prachatipok was added to the Bangkok-Singapore line and the s. s. Krat put on the Chantaboon-Krat run. Electric light installations were completed on all the steamers. A dividend of 5% for the term was paid.

SHIPBUILDING IN JAPAN—The *Japan Times* gives the following review of the activity in shipbuilding in the Empire:

The number of shipbuilding concerns and dockyards in this country at the end of last year was 239 and fifty-five respectively, showing the great progress of the country's shipbuilding industry compared with twenty-five years ago when there were only shipbuilding yards and thirty-four dockyards throughout the country. Of these concerns those receiving a shipbuilding encouragement bounty from the Government are the Mitsu Bishi Shipbuilding & Engine Works (Nagasaki), the Kawasaki Shipbuilding Yard (Kobe), the Osaka Iron Works and the Uraga Dock Company. The number of vessels built at these yards between 1896 and 1909 inclusive was ninety-five, their tonnage aggregating 273,624 tons. The vessels now building at those yards are as follows:

| | Number of Vessels. | Tonnage. |
|---|---|---|
| Mitsu Bishi Shipbuilding Yard:— | 8 | 24,150 |
| Osaka Iron Works:— | 3 | 2,860 |
| Kawasaki Shipbuilding Yard:— | 1 | 2,850 |
| Uraga Dock Company:— | 1 (dredger) | 1,200 |

New Australian Battleship.—The following are the dimensions of the new battleship: Length at the water-line, 530ft; beam, 78ft., with about 26ft. draught. The displacement of the vessel will be in the neighbourhood of 20,000 tons. The main armament will consist of, approximately, eight 12-in. guns (firing a projectile weighing 850lb., with a muzzle velocity of 3,000 ft. seconds). In addition there will be about 16 4-in. guns. Protection is afforded by a steel belt 7in. thick amidships, diminishing to 4 in. at the bow and the stern. The horsepower will be 64,000, and is supplied by twenty-two Babcock and Wilcox boilers. This will mean an hourly consumption of 30 tons of coal when going at full speed, or 720 tons for twenty-four hours, full speed, being twenty-six knots, approximately thirty miles per hour. An extensive and complete electric light plant will be installed, also complete equipment for wireless telegraphy and fire-control.

To Reconstruct Army Transport Thomas.—The contract to reconstruct this vessel has been let to the Moore and Scott Iron Works, Oakland. The expense of refitting will reach approximately half a million gold.

Kawasaki Dockyard, Dairen.—This branch of the Kawasaki Dockyard repaired 35 vessels in 1909, and this year up to the end of June had docked 23 vessels. These docks have a capacity to receive vessels of 3,000 tons.

The N. Y. K. and the Panama Route.—This company is preparing to inaugurate a line from Yokohama to New York in 1915 with the opening of the canal. It has also initiated a direct line connecting Yokohama and Shanghai with the Niagata Maru.

N. D. L. Liners May Call at Manila.—The managing director of the North German Lloyd recently paid a visit to Manila to look over the field with a view to make Manila a port of call.

General Manager Schwerin Visits Orient—The head of the Pacific Mail S. S. Company is expected at Manila early in October to look up his company's interests there.

China's Shipping Trade.—The total number of vessels entered and cleared from China's open ports during the year 1909 numbered 208,516 representing 86,771,800 tons as against 207,605 vessels in 1908 and a tonnage of 83,-991,289.

Of the 208,000 odd vessels entering and clearing in 1909 there were 120,714 sailing vessels and 87,802 steamers, the latter's tonnage being 80,613,890 tons and the former's 6,157,919. Not taking junks into consideration China claimed most of the vessels participating, her figure being 34,038, Japan came next with 30,808 and then Britain with 27,699. But in tonnage Britain easily led—34,026,704 tons against the next nearest of 18,949,404, which is Japan's figure. Germany supplied 5,854 ships of 7,243,742 tons.

In tonnage of clearances British ships lead the way with 12,278,672 tons. China comes next with 7,094,482 tons and then Japan with 6,997,771 tons and Germany next with 2,344,273 tons. In the number of clearances China is easily top with 45,756, Japan next with 15,077, Britain next with 9,183 and Germany next with 2,041.

N. Y K. Reduces Rates.—This company has declared a reduction of rates on all its lines, but especially on the trans-Pacific run where the reduced rate from Manila to Seattle has been fixed at $150, or the same rate as previously applied to government employees. This is a reduction of $50 over the old rate of $200. The round trip fare has been fixed at $225 or a reduction of $75 over the old rate of $300 and equals the former rate from Seattle to Manila only.

The rate to London, Antwerp or Hamburg via Seattle and New York and thence across the Atlantic either by the White Star, Cunard, or North German Lloyd has been fixed at $300. and the rate from Manila to New York via Europe at $385. All these rates include first class N.Y.K. and first class Atlantic.

North German Lloyd Reduces Rates.—The Norddeutscher Lloyd is to reduce its rates for the voyage from Southampton to Australian harbours to 60 per cent. for first class and to 35 per cent. for second-class passengers, in addition to which a surtax of 10 per cent is to be paid. Hitherto £65 to £75 and £38 to £ 42 prevailed.

Earnshaw and Company.—This company has turned out of their shops a propeller for the s. s. Churruca ordered by Messrs. Ynchausti & Co., that weighs three tons and is 11.5 feet in diameter. This is the largest casting successfully turned out in the Philippines.

New Philippines Customs Cutter.—Plans and specifications have been prepared for the construction of a fast vessel to be used as revenue cutter in the Southern Islands. Its dimensions will be 110 feet in length, 17 foot beam and a depth of 7.75 feet. It is proposed to have this vessel develop 14 knots. As part of its equipment there will be a kerosene propelled launch twenty feet in length, fitted with a Remington motor and capable of 20 knots. The cutter will be provided with cold storage and electric light. A powerful search light will be installed forward. The engines are to be of the triple expansion condensing type.

Java-Bangkok Line.—The Royal Packet S. N. Co. has established connections between Bangkok and Java by inaugurating a monthly service which began early this month. The first steamer was chartered but as the trade increases the company proposes to put its own boats on.

New Straits Steamer.—The Straits Steamship Company has just ordered a new steel screw steamer from the Caledonian Shipbuilding and Engineering Company, Dundee, Scotland. The dimensions are: Length over all, 280 feet; breadth, 37 feet; moulded depth, 17 feet. She will be propelled by a single screw and will be capable, on average steaming, of 15½ knots an hour.

## MINES, MINERALS AND THE METAL TRADE

The Wakamatsu Foundry.—Baron Nakamura, manager of this institution, has recommended that yen 35,000,000 be expended by the government in doubling the capacity of the plant which now turns out 150,000 tons of iron annually. The foundry originally represented an investment of yen 3,000,000 but up to the present time it has cost over yen 50,000,000. of which but yen 30,000,000 are represented by construction expenses the balance having been eaten up in losses. So far the imported iron, even after paying duty, sells, at a lower price than it can be manufactured for at the Wakamatsu foundry, so that it is believed by increasing the capacity the unit of cost will be reduced.

Fushun Coal.—This product is rapidly taking the place of firewood as fuel in and about Harbin, and the company expects to supply 20,000 tons there during the year. The rapidity with which the natives take to coal is largely due to the increase in the price of firewood noted in those sections. The coal people believe that this trade will increase to 40,000 tons annually by the end of next year.

The Goping Ltd.—The report of the directors of New Gopeng, Ltd., presented at the 7th annual meeting of shareholders held at Tabb Hotel, Redruth, on July 26, stated that the accounts show a profit of £10,892 19s. 2d. making with the balance brought forward £1,-022 9s. 3d., a total of £11,915 8s. 5d., out of which dividends at the rate of 17½ per cent. (3s. 6d. per share) have been paid, leaving a balance in hand of £4,915 8s. 5d. The directors are pleased to report that the profits are much larger than for the preceding year.

Although the year's tin returns have been comparatively small, this has been more than compensated for by the large increase in the profit derived from rubber, and our policy for dealing with the property has been fully justified, in so far that excellent profits have been earned without further inroads having been made on the company's reserves of land. As stated elsewhere, it would not have been possible to deal with the low-lying land remaining upon the two old blocks without some economical form of elevation. This led to the installation of jet elevators, the complete success of which has demonstrated that they can economically be used on other parts of the company's property, and must be considered as opening out great possibilities for future working of this description, and although it is not possible to accurately forecast the result, there can be no doubt that this method of working will add considerably to the life, and consequent value, of your property.

The Tronoh Mines.—Pointing out to the shareholders, the lack of justification in rumors to the effect that these mines would be worked out this year, Secretary Swannel says:

"The board have just received from the general manager important information of further developments on the eastern lead, and he proposes to work this part of the property by the open-cast system. He reports that he has proved the ground by bore-holes, and the average value of the karang (or tin-bearing ground) was 42 catties; and he estimated the quantity at 65,000 cubic yards. According to the figures sent by the manager, the profit likely to be obtained from working this part of the property is estimated at $738,500 = about £86,150.

"In making the above estimate, the manager based the value of the karang at only 30 catties.

"The manager has since reported by cablegram that the borings made since sending his written report indicate a further extension of 100 feet, with an estimated quantity of 6,500 cubic yards of karangs of the value of 15 catties.

"The above ground is distinct from the portion of the property on which the present workings are carried on."

Oil in Saghalien.—The report of the experts of the China Oil Co. sent to North Saghalien to investigate the oil deposits is most favorable. The Beatassin oil fields near Chaiwo showed oil free from benzine and 50 % kerosene. This will obviate the suspension of activities during the winter as this kind of oil does not freeze. The Nutowo district also won favorable comment. This region covers about 40 square miles and is featured by innumerable lakes covered with pitch. To offset the natural attractions labor is scarce and the closing of the harbor during the winter interferes with transportation.

Coal in Saghalien.—The Russian Government is greatly interested in the development of the coal measures by providing that leases may be granted for a period of 36 years under competitive tender to private companies under contract to take out not less than 10,000 tons annually for the first three years and double that amount annually thereafter.

Peking Syndicate Prospects.—The working of the iron ore deposits covered by this company's concession. The Chinese government has been asked for a special permit to instal blast furnaces and other equipment necessary to complete a modern steel manufacturing plant. The adaptability of the coal available for smelting purposes controlled by the company should aid in the economical manufacture of steel the demand for which is increasing annually throughout the empire.

Japan's Mineral Output.—The following table shows the returns for the first five months of the year 1910:

Gold, 45,600 ounces; Silver, 1,930,000 ounces; Copper, 17,000 tons; Sulphur, 15,000 tons; Coal, 5,547,258 tons; Kerosene, 2,500,000 gallons; Iron, 341,820 tons.

New Manager of Raub.—Manager William J. Oates of the Raub has resigned and has been succeeded by Mr. Frank Williams, late manager of the Grenville United Mines, according to the *Malay Mail.*

New Gopeng Report.—The Company's issued capital is £40,000, and the profit for the year ending April 30th was £10,892. The dividends paid in 1909 were 6d. and 9d. per share respectively, and, in 1910, 1s. and 1s. 3d. respectively, or 3s. 6d. per share, absorbing £7,000.

Green Island Cement.—An interim dividend of 15 cents per share has been declared.

Burma Mines Ltd.—During July the furnaces were in blast for 1677 hours during which time a total tonnage of 6195 tons were smelted, made up as follows:

| | | |
|---|---|---|
| Bawdwin slag and ores | 3227 | tons |
| Fluxing Ores, Drosses, &c | 2687 | " |
| Purchased Ores | 281 | " |
| Total | 6195 | tons |

The tonnage of Coke used amounted to 837 tons.

The lead produced amounted to 1357 tons containing approximately 8862 ozs. of silver.

The lead shipped from Rangoon to London during July amounted to 1291 tons containing approximately 8360 ozs. of silver. Besides the above shipments about 100 tons were sold locally for shipment to China and Japan.

Gold Strike in Japan.—The *Japan Herald* reports the discovery of a gold reef situated at a height of 3,000-ft. on a mountain at Araigori in that prefecture. Mr. Tezuka obtained the rights for conducting experimental work over an area of 230,000 *tsubo* last year. Subsequently, however, he found six exposed reefs and asked for permission to work 620,000 *tsubo*. On June 21, the Mine Controlling Office sent a few officials who continued their investigations till the 15th ultimo, as a result of which a large vein of gold reef extending over a mile with a thickness of 120 feet was found. According to analysis the ore averages from 2⅛-oz. to 2½-oz. to the ton.

Pulo Laut Coal.—The report for 1909 of this Dutch East Company places the output for the year at 119,000 tons against 98,000 tons in 1908. Of this 56,000 tons were exported and 161 vessels were bunkered at Stagen, the coaling port.

Belat Tin Mining Co.—This company's profits for the year amounted to $99,460, an increase over the previous term of $58,898 besides acquiring 26 acres additional tin land. A final dividend of 20%, making 30% for the year, was declared.

Burang Tin Mine.—The directors' report shows a profit of $20,000 for the year which was recommended disposed of as follows:

(1) That preliminary expenses be written off absorbing $6,420.02. (2) That the balance thereafter remaining be written off cost of pipe line $13,594.12.

Kuala Lumpur Engineering Works Ltd.—The above named syndicate has been organized with a capital of $250,000 to take over three local establishments.

Korean Mining.—The mining products of Korea for 1909 were 3,845,568 *yen* of gold, 548,355, *yen* of gold dust, 4,096 *yen* of silver, 42,835 *yen* of gold and silver minerals, 2,727 *yen* of copper mineral, 327,613 *yen* of iron, and 225,865 *yen* of coal, making a total of 4,997,059 *yen*. The Seoul Press states that the provinces in North Korea are rich in minerals. More than ten mines for gold, copper and mica have lately been discovered in the provinces. The coal mining undertaken by Japanese is being very prosperously carried on and the coal is very good for fuel. Timber necessary for construction of houses is mostly supplied by the Nisshin Company which has sawing machines erected on a grand scale. The agricultural products consist of beans and hemp while the coast is crowded with various kinds of marine products. Chiksan gold mine in North Chhun Chhyong, Korea, about fifty miles southward of Seoul, is being worked by Baron Shibusawa and a few American capitalists who are the owners of the mine. Recently one of the American investors, Mr. Andersen, came to Korea for the purpose of investigating the condition of the gold veins and, should the result of investigation prove satisfactory, to work the mine on a larger scale forming a joint stock company of Japanese and American capitalists. A provisionary contract for the said project has been signed between Baron Shibusawa and the American capitalists.

## [FINANCIAL, COMMERCIAL AND MISCELLANEOUS]

Commercial Bank at Peking.—The members of the Board of Finance are greatly interested in the establishment of a bank at the capital and have asked local bankers assistance.

Government Control of Imported Meat.—The Philippine Bureau of Supply has been authorized to assume control of the handling of meat from shipside until it is placed on sale in the markets through the cold stores.

Hongkong and Shanghai Banking Corporation.—The statement of the directors for the half-year ended June 30 follows:

"The net profits for that period, including $2,028,987.94, balance brought forward from last amount, after paying all charges, deducting interest paid and due, making provision for bad and doubtful accounts, amount to $5,389,127.67.

"The Directors recommend the transfer of $500,000 from the Profit and Loss Account to credit of the Silver Reserve Fund, which Fund will then stand at $16,000,000.

"They also recommend writing off Bank Premises Account the sum of $150,000.

"After making these Transfers and deducting Remuneration to Directors there remains for appropriation $4,724,127.67, out of which the Directors recommend the payment of a Dividend of two pounds sterling per share, viz.: £240,000 which at 1-9⅝, the rate of the day, will absorb $2,694,736.84.

"The balance $2,029,390.83 to be carried to New Profit and Loss Account.

"Owing to the redemption of the national war loan a rearrangement of the securities held in the account became necessary, and £270,000 3% Exchequer Bonds due 1915 were purchased, which stand in the books at 98. The opportunity was taken to adjust our holding of Consols to 80 and to write down other sterling securities.

"The expenditure incurred in effecting these changes, viz: £7,170, has been met of the profits of the half-year."

At the meeting held August 20, the chairman referring to the recent crisis in Shanghai said:

"Although at the outset I proposed to confine my remarks to the accounts, there is one matter outside these which, I think, calls for brief comment, I refer to the recent crisis in the native money market in Shanghai, caused by the failures of several native banks at that port. Energetic action was at once taken by the Chinese authorities, the Native Bankers' Guild and the Chinese Chamber of Commerce. The aid of the Foreign banks was sought and negotiations resulted in their making a loan of Tls. 35 lacs, issued under Imperial Edict, to the Taotai of Shanghai for the assistance of the native money market. The relief thus afforded had a very good effect and, although business is still restricted, it is hoped that a gradual return of confidence will soon enable native banks to resume the granting of reasonable trade facilities."

Branches were opened at Johore and Ipoh in Malaysia during the term.

Bank of Japan.—The following accounts were submitted and approved and the distribution of profits authorized for the half year:

| | Yen. |
|---|---|
| Profits | 3,292,829 |
| Dividend on old shares (6 per cent. per annum) | 900,000 |
| Dividend on new shares (6 per cent. per annum) | 121,500 |
| Balance | 2,272,329 |
| To reserves | 210,000 |
| Bonus to officials and society expenses | 206,000 |
| Second dividend on old shares (6 per cent. per annum) | 900,000 |
| Second dividend on new shares (6 per cent, per annum) | 121,500 |
| Carried forward to next term | 834,829 |

Hongkong Finances.—The total revenue of the colony of Hongkong during 1909 was $6,822,967, $718,760 more than 1908 and $113,971 more than the estimates. Expenditure, inclusive of public works extraordinary, was $6,542,839, or $1,386,639 less than the total expenditure of 1908, and less than the estimate by $238,327. The total surplus over the estimates was $280,128, instead of an anticipated deficit of $72,170. These figures exclude a reimbursement of $354,065 from railway account. A contribution of $1,226,441 was made towards the cost of the maintenance of militaty forces, including barrack services and defence works.

Grand Hotel, Ltd.—The directors submitted the following report for the half year ended June 30:

The net profit for the half-year after providing for general expenses, Directors' and Auditors' fees, and bad and doubtful debts, amounts to 40,613.74 *yen*, which it is proposed to apply as follows:

| | Yen. |
|---|---|
| In payment of a Dividend of *yen* 5.00 per share for the half year | 25,000.00 |
| Written off New Buildings Account | 2,500.00 |
| Written off Furniture Account | 3,257.23 |
| Set aside for Furniture and Improvements | 4,000.00 |
| Carried to Reserve Fund | 5,000.00 |
| Carried forward to next Account | 756.51 |

Yokohama Engine & Ironworks.—The report for the year showed a profit of yen 39,956 which was carried forward.

Floating Drug Store in Malaysia.—According to Consul-General James T. DuBois, of Singapore, the sale of Western medicines in the Malay Peninsula should find impetus under the new system of distribution. A dispensary boat—an ordinary house boat, with a crew to pole upstream and paddle downstream—will be equipped with Western medicines and cruise on the Pahang River in charge of a Malay "dresser." It will also facilitate the free distribution of quinine to the natives, which work has hitherto been accomplished through the agency of police stations and vernacular school teachers.

China's New Coinage.—To assist in the circulation of the new coins 3,000,000 dollar pieces already available at the Tientsin mint will be used to pay off troops in October.

Japan's Trade Increase.—The exports for the first half of the present year amounted to yen 211,201,360, an increase of yen 24,201,065 over the values for the corresponding period, 1909, while the imports amounted to yen 239,944,793, an increase of yen 25,426,818 for the term.—The total balance in Japan's favor for this period amounted to yen 28,743,433 an increase of yen 1,225,753. In all the increase in foreign trade for the term amounted to yen 49,627,883.

New Manila Shoe Factory.—The U. S. Shoe Co. of Manila moved into their new three storey reinforced concrete building this month and will soon be prepared to turn out 600 pairs of shoes daily, double the former capacity of the factory. The company is capitalized at ₱500,000 and President McGrath has been responsible for the development of the industry from a small cobbler's shops during the last eleven years.

Manila's Finances.—The total collections for the fiscal year just closed were ₱2,975,103.68 as compared with ₱2,765,851.18 for the preceding year. The increase in the twenty-three departments was ₱212,955.25, while the decrease in nine deparments was ₱3,703.75, making a net gain for the past fiscal year of ₱209,252.50 over the collections for the preceding year.

The collections for land tax for the year just closed were ₱1,291,129.62 as against ₱1,261,236.45 for the preceding year, a gain for the year of ₱29,893.17. The franchise tax collected for the year was ₱53,783.42, a gain of ₱3,766.25.

Other principal departments that show a gain are: Internal Revenue licenses and cedulas, the collections in this department for the year being ₱112,097.85; water rents, collections for the year, ₱274,976.35, a gain over the preceding year of ₱23,250.81; sales of city property, collections ₱41,918.79, a gain over the preceding year of ₱26,376.86; road and bridge cedulas, collections, ₱81,158.00; a gain of ₱23,248.00; municipal court fees, collections, ₱93,614.95, a gain of ₱26,607.12; market fees collections, ₱278,736.85, a gain of ₱15,971.35; building permits collections, ₱17,524.01, a gain of ₱1,492.85.

# FAR EASTERN STOCKS AND QUOTATIONS

*Courtesy of Messrs. Kadoorie & Co., Hongkong, September 2, 1910.*

| STOCK. | WHEN ESTABLISHED | CAPITAL | NO. OF SHARES | VALUE | PAID UP | RESERVE | AT WORKING ACCOUNT | DATE | LAST DIVIDEND. | Approximate Yield per cent per annum at Present Quotation | CLOSING QUOTATIONS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **BANKS.** | | | | | | | | | | | |
| Hongkong & Shanghai Banking Corporation | 1865 | $15,000,000 | 120,000 | $125 | $125 | g £1,500,000<br>s $16,000,000<br>i $250,000 | $2,029,390 | 31-12-09 | £2. for first half year ending 30-6-10, @ ex 1/9⅝ = $22.456 | 5% | 930 buyers<br>£88 |
| National Bank of China, Ld. | 1891 | £699,475 | 10) 99,925 | £7 | £6 | c £4,099<br>$400,000 | $34,167 | 31-12-09 | $2 (London 3/6) for 1903 | .... | $76 buyers |
| **MARINE INSURANCES.** | | | | | | | | | | | |
| Canton Insurance Office, Ld. | 1881 | $2,500,000 | 10,000 | $250 | $50 | $1,560,000<br>j $254,583<br>u $302,799 | Nil. | 31-12-08 | $10 for 1908 | 6% | $172½ buyers |
| North China Insurance Co., Ld. | 1903 | £150,000 | 10,000 | £15 | £5 | g £125,000<br>s Tls. 225,000<br>u Tls. 335,253<br>f Tls. 146,586 | Tls. 207,572 | 30-6-09 | Final of 7/6 making 15/- for 1908. | 5% | Tls. 115 buyers |
| Union Ins. Society of Canton, Ld. | 1867 | $3,100,000 | 12,400 | $250 | $100 | s $3,000,000<br>g £90,000<br>f $287,984<br>j $1,449,735<br>u $713,985 | $287,984 | 31-12-09 | Final of $20 per share, making in all $50 per share for 1908, and an int. div. of $30 per share for 1909 | 6% | $835 sellers |
| Yangtsze Ins. Association, Ld. | 1889 | $1,200,000 | 12,000 | $100 | $60 | $1,000,000<br>j $294,405<br>$199,234 | $707,637 | 31-12-08 | $12 for year ending 31-12-08 and interim of $3 on account of 1909 | 7 | $200 sellers |
| **FIRE INSURANCES.** | | | | | | | | | | | |
| China Fire Ins. Co., Ld. | 1870 | $2,000,000 | 20,000 | $100 | $20 | $1,000,000<br>x $550,348<br>f $61,168 | $438,406 | 31-12-09 | $6 and bonus $2 for 1908 | 7% | $112½ sales |
| Hongkong Fire Ins. Co., Ld. | 1868 | $2,000,000 | 8,000 | $250 | $50 | $1,460,000 | $426,218 | 31-12-09 | $27 for 1908 | 8% | $342½ buyers |
| **SHIPPING.** | | | | | | | | | | | |
| China & Manila Steamship Co., Ld. | 1882 | $750,000 | 1) 30,000 | $25 | $25 | i $57,734 | Dr $3,777 | 31-12-09 | $4% for 1906 | .... | $11 sellers |
| Douglas Steamship Co., Ld. | 1883 | $1,000,000 | 20,000 | $50 | $50 | $230,000<br>i $100,589 | Nil. | 30-6-09 | $2½ for year ending 30-6-1908 | .... | $27 sellers |
| Hongkong, Canton & Macao Steamboat Co., Ld. | 1865 | $1,200,000 | 80,000 | $15 | $15 | e $250,000<br>d. i. $627,500<br>f $78,765<br>$ 15,491 | $18,026 | 31-12-09 | Dividend of $1½ for 30.6.1910 | 8% | $33 sellers |
| Indo-China Steam Navigation Co., Ld. (Preferred)<br>Do. Do. (Deferred) | 1882 | m £600,000 | 2) 60,000<br>2) 60,000 | £5 | £5 | i £138,100 | £7,537 | 31-12-09 | No dividend paid for last two yrs. | .... | $60 sellers |
| "Shell" Transport & Trading Co., Ld. | 1898 | £ 2,000,000 | 2,000,000 | £1 | £1 | £720,000<br>i £100,000 | £192,994 | 31-12-08 | 3rd interim of 2/- per share (coupon No. 12) making in all 4/- for 1908, and interim of 1/- for account 1909 | 5% | 88/-<br>£11 buyers |
| "Star" Ferry Co., Ld. | 1898<br>1900 | $200,000 | 10,000<br>10,000 | $10<br>$10 | $10<br>$5 | $71,850<br>i $62,681 | $1,159 | 30-4-10 | A dividend of 7% and bonus of 5% making 12% for year ending 30.4.1901 | 5<br>5% | $24 sellers<br>$12 sellers |
| **REFINERIES.** | | | | | | | | | | | |
| China Sugar Refining Co., Ld. | 1878 | $2,000,000 | 20,000 | $100 | $100 | e $520,000<br>r $83,620 | Dr. $8,090 | 31-12-09 | $10 per share for 1909 | 6% | $160 sellers ex div. |
| Luzon Sugar Refining Co., Ld. | 1882 | $700,000 | 7,000 | $100 | $100 | none | Dr. $101,851 | 31-12-09 | $3 for 1897 | — | $26 sellers |
| Perak Sugar Cultivation Co., Ld. | — | Tls. 350,000 | 7,000 | Tls. 50 | Tls. 50 | Tls. 100,000 | Tls. 6,302 | 31-3-09 | Tls. 10 for year ending 31-8-09 | .... | Tls. 800 sellers |
| **MINING.** | | | | | | | | | | | |
| Chinese Engineering & Mining Co., Ld. | 1901 | £1,000,000 | 1,000,000 | £1 | £1 | d £215,000<br>h £12,289 | £1,435 | 28-2-09 | Interim of 1/6 for 1910 (coupon 14) | 9% | Tls. 16 |
| Headwaters Mining Co. | 1908 | ₱600,000 | 28) 600,000 | ₱10 | ₱10 | | | | First year | | ₱10 buyers |
| Raub Australian Gold Mining Co., Ld | 1892 | £200,000 | 150,000<br>50,000 | £1<br>£1 | 18-10<br>£1 | £4,873 | Dr. .... | .. | 1/2 per share, 13th div. | 5% | $7½ |
| Oriental Consolidated Mining Co. Ld. | .... | g $5,000,000 | 500,000 | g $10 | $10 | none | .... | .. | Final of gold $0.65 for 1909 in all g $15 | .. | 41/- |
| **DOCKS, WHARVES AND GODOWNS** | | | | | | | | | | | |
| Fenwick (Geo.), & Co., Ld. | 1889 | $450,000 | z 18,000 | $25 | $25 | $25,275 | Dr $8,460 | 31-12-09 | $1½ for year ending 31-12-06 | .... | $10 |
| Hongkong & Kowloon Wharf & Godown Co., Ld. | 1886 | $3,000,000 | 60,000 | $50 | $50 | $550,000<br>t $31,993<br>i $40,000 | $264,847 | 31-12-09 | $2½ for 1909 | 4½% | $54 sales |
| Hongkong & Whampoa Dock Co., Ld. | 1866 | $2,500,000 | 50,000 | $50 | $50 | i $88,214<br>v $221,000 | $132,765 | 31-12-09 | No dividend paid this year | .. | $50½ sales |
| Shanghai Dock & Engin'g Co., Ld. | 1906 | Tls. 5,570,000 | 13) 55,700 | Tls. 100 | Tls. 100 | Tls. 1,000,000 | Tls. 6,261 | 30-4-09 | Final of Tls. 3½ making Tls. 6 in all for 1909 | 6¼ | Tls. 76 |
| Shanghai & Hongkew Wharf Co., Ld. | 1902 | Tls. 3,600,000 | 36,000 | Tls. 100 | Tls. 100 | b Tls. 697,257<br>r Tls. 50,000<br>e Tls. 125,000 | Tls. 9,222 | 31-12-09 | Interim of Tls. 3 for 1910 | 7 | Tls. 113 ex div. |
| **LANDS, HOTELS AND BUILDINGS.** | | | | | | | | | | | |
| Anglo-French Land Investment Co., Ld. | 1906 | Tls. 2,500,000 | 8) 25,000 | Tls. 100 | Tls. 100 | Tls. 35,000 | Tls. 4,314 | 29-2-09 | Tls. 6 for year ending 29-2-10 | 5¾ | Tls. 97 sellers |
| Central Stores, Ld. | — | $751,845 | 16) 50,123 | $15 | $15 | n. $1,000 | $1,000 | 31-12-08 | 8% for 1909 | .... | $16 buyers |
| Hongkong Hotel Co., Ld. | 1866 | $600,000<br>$400,000 | 12,000<br>8,000 | $50<br>$50 | $50<br>$25 | $648,975<br>r $10,000 | $1,277 | 31-12-09 | $2.60 on old shares, $1.30 on new shares, for ½ year ending 31-12-09 | — | $104 sellers<br>$82 sellers |
| Hongkong Land Investment & Agency Co., Ld. | 1889 | $5,000,000 | 50,000 | $100 | $100 | e $250,000 | $27,971 | 31-12-09 | Interim of 3½ for 1910 | 6½ | $101 buyers |
| Humphreys' Estate & Finance Co., Ld. | 1887 | $1,500,000 | 150,000 | $10 | $10 | i $226,945<br>20) $25,856 | $5,471 | 31-12-09 | 45 cents for 1909 | 5¾% | $8 sales |
| Kowloon Land & Bldg. Co., Ld. | 1889 | $300,000 | 6,000 | $50 | $30 | none | $269 | 31-12-09 | $2½ for 1909 | 8½% | $32 buyers |
| Shanghai Land Investment Co., Ld. | 1888 | Tls. 3,900,000 | 78,000 | Tls. 50 | Tls. 50 | Tls. 1,523,045<br>e Tls. 300,000 | Tls. 63,969 | 31-12-09 | Interim of Tls. 3 for 1910 | 6¾ | Tls. 112 |
| West Point Bldg. Co., Ld. | 1889 | $625,000 | 12,500 | $50 | $50 | none | $1,958 | 31-10-09 | Interim of $1.80 for 1910 | 8¾ | $39 |
| **COTTON MILLS.** | | | | | | | | | | | |
| Ewo Cotton Spinning & Weaving Co., Ld. | 1895 | Tls. 1,000,000 | 5) 20,000 | Tls. 50 | Tls. 50 | Tls. 250,000<br>e 20,000 | Tls. 10,991 | 31-10-09 | Tls. 11 for year ended 31-10-09 | 8¼ | Tls. 110 |
| Hongkong Cotton Spinning, Weaving & Dyeing Co., Ld. | 1901 | $1,250,000 | 125,000 | $10 | $10 | Tls. $175,000 | $26,297 | 30-7-09 | 50 cents for year ending 31-7-08 | L 8% | $5 |

# FAR EASTERN STOCKS AND QUOTATIONS—(Continued.)

| STOCK. | WHEN ESTABLISHED | CAPITAL. | NO. OF SHARES. | VALUE. | PAID UP. | RESERVE | AT WORKING ACCOUNT. | DATE. | LAST DIVIDEND. | Approximate Yield per cent. per annum at Present Quotation. | CLOSING QUOTATIONS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| International Cotton Manufacturing Co., Ld. | 1895 | Tls. 750,000 | 6) 10,000 | Tls. 75 | Tls. 75 | Tls. 175,000 | Tls. 8,372 | 30-9-09 | Tls. 7½ for year end. 30-9-09 (10%) | 12% | Tls. 62 |
| Laou-kung-mow Cotton Spinning & Weaving Co., Ld. | 1895 | Tls. 800,000 | 8,000 | Tls. 100 | Tls. 100 | none | Tls. 4,829 | 31-12-08 | Tls. 6 for 1909 | % | Tls. 60 |
| Soy Chee Cotton Spinning Co., Ld | 1895 | Tls. 1,000,000 | 2,000 | Tls. 500 | Tls. 500 | f Tls. 31,173 | Tls. 31,173 | | Tls. 25 for 1909 | 10% | Tls. 240 |
| **MISCELLANEOUS** | | | | | | | | | | | |
| Bell's Asbestos Eastern Agency, Ld. | 1895 | £5,377.10s. | 11) 8,604 | 12/6 | 12/6 | £1,500 | £682 | 31-12-08 | 15% for 1908 | | $8 sellers |
| China-Borneo Co., Ld. | 1903 | $720,000 | 8) 60,000 | $12 | $12 | $40,000 | Nil. | 31-12-08 | 5% for 1909 | 6% | $8½ buyers |
| China Light & Power Co., Ld. | 1901 | $300,000 | 50,000 | $5 | $5 | none | $46,483 | 31-7-09 | 60 cents for year ending 28-2-06 | | $140 |
| Do. do. Special Shares | 1907 | | 17) 50,000 | $1 | $1 | | | | | | |
| China Provident Loan & Mortgage Co., Ld. | 1898 | a $1,250,000 | 7) 125,000 | $10 | $10 | $100,000 | $2,602 | 31-12-09 | 80 cents for 1909 | 9% | $8 buyers |
| Dairy Farm Co., Ld. | 1896 | $300,000 | 40,000 | $7½ | $6 | l $10,000 $10,000 | $1,850 | 31-7-09 | $1.20 for year ending 31-7-09 | 6½% | $19½ sales |
| Green Island Cement Co., Ld. | 1897 | $4,000,000 | 400,000 | $10 | $10 | $14,000 | $4,290 | 31-12-09 | Final of 40 cts. making in all 75 cts. per share for 1909 | 10 | $5 |
| H. Price & Co., Ld | 1907 | $120,000 | 19) 15,000 | $10 | $10 | none | $1,923.87 | 31-12-09 | 14% viz $1.40 for 1909 | 12% | $12 buyers |
| Hongkong Electric Co., Ld. | 1889 | $600,000 | 60,000 | $10 | $10 | none | $11,798 | 28-2-10 | A dividend of $1.20 per share and a bonus of 10 cents | 6 | $20 buyers |
| Hongkong Ice Co., Ld. | 1881 | $125,000 | 5,000 | $25 | $25 | k $150,000 | $12,662 | 31-12-09 | Final of $8 per share making in all $10 1909 | 6 | $135 buyers |
| Hongkong Rope Manufacturing Co., Ld. | 1883 | $600,000 | $60,000 | $10 | $10 | $40,000 | $9,176 | 31-12-09 | Interim of $1 for 1910 | 9 | $21 |
| Maatschappij tot Mijn-, Bosch- en Landbouwexploitatie in Langkat | 1902 | Gs. 2,500,000 | 25,000 | Glds. 100 | Glds. 100 | 21 Tls 547,500 Tls. 547,500 f Tls. 63,914 | Tls. 316,682 | 31-10-08 | Interim Div. of Tls. 12½ 15 March Tls. 12½, 15 June & Tls. 15.00 15 Sept. | 5% | Tls. 1300 sellers |
| Peak Tramways Co., Ld. | 1907 | $750,000 | 25,000 | $10 | $10 | 21 Tls. 547,500 $20,000 | $3,014 | 30-4-10 | 80 cents on fully paid shares & 8 cents on $1 paid shares for year ending 30-4-10 | 5½ | $14 sellers |
| Do. (New) | | | 50,000 | $10 | $1 | | | | | 5 | $1½ sellers |
| Philippine Co., Ld. | 1904 | $750,000 | 75,000 | $10 | $10 | none | Ps. 18,640 | 31-12-08 | None | .... | $10 sellers |
| Robinson Piano Co., Ltd. | 1900 | $200,000 | 22) 4 000 | $50 | $50 | $5,000 | $61,138 | 31-8-08 | 6% for ½ year ending 30.9.07 | .... | $50 sellers |
| Shanghai-Sumatra Tobacco Co., Ld. | 1902 | Tls. 600,000 | 9) 30,000 | Tls. 20 | Tls. 20 | Tls. 24,820 w Tls. 100,000 | Tls. 5.250 | 31-10-08 | No dividend this year | 2 | Tls. 155 |
| South China Morning Post, Ld. | 1903 | $150,000 | 6,000 | $25 | $25 | none | Dr. $31,096 | 31-8-09 | None | .... | $26 sellers |
| Steam Laundry Co., Ld. | 1902 | $100,000 | 20,000 | $5 | $5 | none | $127,86 | 31-5-09 | 50 cents for year ending 30 5-10 | 8 | $5½ sellers |
| Union Waterboat Co., Ltd. | 1905 | $500,000 | 15) 50,000 | $10 | $10 | w $11,956 | .. | 31-12-08 | 60 cents for year-end. 31-12-1908. | 6½ | $8 |
| United Asbestos Oriental Agency, Ld. | 1896 | $100,000 | 10,000 | $10 | $4 | $46,000 | $342 | 31-5-09 | 60 cents per ordinary share for year ending 31-5-09 | 5 | $11½ sellers |
| Watkins, Ltd. | 1899 | $100,000 | 10,000 | $10 | $10 | none | $19,41 | 31-12-09 | 3½ for 1909 | 11% | $3 |
| Watson (A. S.) & Co., Ld. | 1886 | $900,000 | 90,000 | $10 | $10 | $300,000 e) $25,000 | $1,776 | 31-12-09 | 3% for 1909 | .... | $6¾ sales |
| Weismann Limited | 1904 | $30,000 | 3,000 | $10 | $10 | $12,250 | $67 | 31-7-09 | 10 per cent for year endg. 31.7.08. | 10% | $12 buyers |
| William Powell, Ld. | 1901 | $105,000 | 15,000 | $7 | $7 | none | $782 | 30-6-09 | Final of 30 cents making 80 cents year ending June 30th 1906 | .... | $2 sellers |
| Societe des Pulpes et Papeteries du Tonkin | | 660,000 | 13,200 | 50 Haiphong | 25 Currency | .... | .. | .... | First year | .... | $30 (Hk.Cy.) sel. |
| **RUBBERS** | | | | | | | | | | | |
| Allagar Rubber Estates, Ltd | 1909 | £85,000 | 29) 750,000 | 2/- | 2/- | .... | .... | .... | .......... | .... | 6/- |
| Anglo-Malay Rubber Co., Ltd. | 1905 | £150,000 | 1,500,000 | 2/- | 2/- | .... | .... | .... | 80% for year ending 31.12.09 | .... | 25/3 |
| Balgownie Rubber Estate, Ltd. | 1905 | †† $200,000 | ‡‡ 20,000 | †† $1 | †† $1 | $7,400 | $11,205 | 31-3-09 | 100% for year ending 31.3.10 | .... | $14 [Singapore] |
| Castlefield Rub. Ld., [fully pd.] | 1906 | £35,000 | 27) 32,650 | £1 | £1 | none | .... | | .......... | .... | 120/- |
| Damansara (Selangor) Rub. Co. | 1906 | £110,000 | 25 110,000 | £1 | £1 | nil. | £2,220 | 31-12-08 | 50% for 1909 | .... | 160/- |
| Golconda Malay Rubber Co. | 1907 | £80,000 | 26 80,000 | £1 | £1 | nil. | nil. | .... | 25% for 1909 | .... | 120/- |
| Highland & Lnd. Para R. Co. | 1906 | £310,000 | | £1 | £1 | £8.784 | .... | .... | 35% for 1909 | .... | 115/- |
| Do. Do. [fully paid] | | | =181,454 | £1 | 15/- | | | | | | |
| Do. Do. [partly paid] | | | 123,546 | | | | | | | | |
| Kamuning (Perak) Rb. & Tin Co. | 1909 | £200,000 | 950,000 | 2/- | 1/- | nil. | nil. | .... | .......... | .... | 6/6 prem. |
| do do A Shares | | | | | | | | | | | |
| do do B Shares | | | 105,000 | £1 | £1 | | | | | | |
| Kuala Lumpur Rubber Co., Ltd. | 1906 | £180,000 | 180,000 | £1 | £1 | £4,000 | 1,82 | .... | 30% for 1909 | .... | 180/- |
| Linggi Plantations, Ltd. (ord.) | 1895 Reconst | £100,000 | ×900,000 | 2/- | 2/- | .... | .... | .... | 50 interim | .... | 54/- |
| Do. Do. (7% pref.) | | | 10,000 | £1 | £1 | | .... | .... | | .... | |
| Ledbury Rubber Estates Ltd. | 1908 | £125,000 | §§ 60,000 | £1 | £1 | — | .... | .... | 17½% for 1909 | .... | 85/- |
| Do. Do. (contrib.) | | | §§ 40,000 | £1 | 7/6 | | | | | | |
| Sagga Rubber Co. Ld. | 1903 | £20,000 | 24) 2,000 | £1 | £1 | nil. | nil. | .... | 25% for 1909 | .... | 270/- |
| Sandycroft Rubber Co. | 1904 | $100,000 | 50,000 | $2 | $2 | $20,000 | $1,275 | 31.1.08 | 150% for year ending 31.1.10 | .... | $31 |
| Sekong Rubber Co., Ld. | 1908 | £80,000 | 27) 80,000 | £1 | 12/6 | nil. | nil. | | .......... | .... | 25/ prem. |
| Shelford Rubber State Ld. | 1906 | £65,000 | 65,000 | £1 | £1 | nil. | £836 | 31.12.08 | 7½% for 1909 | .... | 75/- |
| Singapore & Johore Rb. Co., Ld. | 1903 | $250,000 | 2,500 | $2 | $2 | nil. | nil. | .... | 25% interim | .... | $14 |
| Sungei Choh. Rb. State Co., Ld. | 1907 | £45,000 | 45,000 | £1 | £1 | nil. | nil. | .... | .......... | .... | 105/- |
| Sungei Kapar Rubber Co. | 1906 | £110,000 | 23) 110,000 | £1 | £1 | nil. | £3,448 | 31.12.08 | 37½% for 1909 | .... | 16/6 |
| Toerangie Rubber Co. | 1910 | 30) £100,000 | 51,000 | £1 | 7/6 | .... | .... | .... | First year | .... | 2/- prem. |

| LOANS AND DEBENTURES. | AGENTS FOR THE LOAN. | AMOUNT OF LOAN. | PAR VALUE. | OUTSTANDING BONDS. | WHEN PAYABLE. | CLOSING QUOTATIONS. |
|---|---|---|---|---|---|---|
| China Government, 7 per cent. Silver Loan 1886 E | Hongkong & Shanghai Banking Corporation. | Tls. 767,200 | Tls. 250 | 1914 | Mar. 31st and Sept. 30th each year until Mar. 31st, 1917 | par. Plus interest |
| Hongkong Hotel Company, Ltd., 6 per cent. Mortgage Debentures of 1899 ‡ | | $750,000 | $500 | § all | Half yearly, June 30th and December 31st | par |
| Shanghai & Hongkew Wharf Company, Ltd., 6 per cent. Debentures of 1902 | | Tls. 543,900 | Tls. 100 | .......... | Half yearly, June 30th and December 31st | Tls. 103½ |
| Astor House Hotel Company, Ltd., 8 per cent. Debentures of 1903 | | Tls. 500,000 | Tls. 100 | .......... | Half yearly, January 1st and July 1st | 102½ |
| Chinese Engineering & Mining Co., Ltd., 6 per cent. Debentures of 1903 † | .......... | £500,000 | ¶ | £431,960 | Half yearly, June 30th and December 31st | par. |
| International Cotton Manufacturing Co., Ltd. 7% Debentures of 1901 | Russo Chinese Bank | Tls. 500,000 | Tls. 100 | ‖ | Half yearly, March 31st and Sept. 30th | Tls. 97½. |

a Authorized capital $2,000,000.
b Building Reserve Account.
c Capital Reserve Fund.
d Depreciation Fund.
e Equalization of Dividend Fund.
f Exchange and Investment Fluctuation Account.
g Gold Reserve Fund
h Exchange Reserve Account.
i Insurance Fund.
j Reinsurance Fund.
k Contingencies Account.
l Legal Reserve Fund.
m Authorized Capital
n Sinking Fund.
o Raw Sugar Reserve Account.
p Premium on New Issue.
q Boiler Repairs and Renewals Account
r Repairs and Renewals Account.
s Silver Reserve Fund.
t Depreciation and Repair Account
u Underwriting Suspense Account.
v Special account
w Special Works Fund.
x Extra Reserve Fund.
y 72,560 owned by the Company.
z 7,200 shares unissued.
1 4,000 shares unissued.
2 First issue of 60,000, of which 10,411 unallotted.
3 5,000 shares unissued.
4 4,480 shares unissued.
5 5,000 shares unallotted.
6 1,616 shares unallotted.
7 75,000 shares unissued.
8 14,000 shares unissued.
9 17,000 shares unissued.
10 40,453 shares actually issued.
11 7,688 shares actually issued.
12 4,200 shares unissued.
13 500 shares unissued.
14 399 shares unissued.
15 22,277 shares unissued.
16 10,000 shares unissued.
17 Special shares are entitled to half of the profits.
18 Capital contributed by Chinese Government-Kuping Tls. 5,000,000.
19 12,000 issued only.
20 Typhoon and Floods Insurance Fund.
21 Special Cash Reserve.
22 1000 shares unissued.
23 10,000 shares unissued.
24 4595 part paid shares.
25 7,500 shares unissued.
26 10,000 shares unissued.
27 2.350 shares unissued.
28 25,000 shares unissued,
29 100,00 shares unissued.
30) 3.700 fully paid vendor shares and an option of 5,000 shares at par for 5 years granted to option holders.
*Based on last year's dividend.
** Based on present dividend.
§ 216 held by the Company.
‖ Only Tls. 134,000 taken up.
¶ In certificates of £20 and £100.
‡ Redeemable in 10 years, or at option of Comp. the Company giving 6 months notice.
† Redeemable at par at rate of £10,000 per annum from 31st December 1903 to 31st December 95.
*** Redeemable at par on 30th June, 1915.
*Dr.* Deficit.
†† Singapore dollars.
‡‡ 4,880 shares unissued.
× 16,756 shares unissued.
§§ 25,000 shares unissued.
4140 shares unissued.

# ADDITIONAL SHANGHAI SHARE QUOTATIONS

July 29, 1910

| STOCK | CLOSING QUOTATIONS | HIGHEST AND LOWEST PRICES DURING THE WEEK | CAPITAL | NO. OF SHARES | VALUE | PAID UP | RESERVE | • LAST DIVIDEND | WHEN PAID |
|---|---|---|---|---|---|---|---|---|---|
| Oriental Consolidated Mining Co., Ltd | 35[10 | | G. $5,000,000 | 500,000 | G. $10 | G. $10 | none | Interim of Gold 50 for 1910 | June. 10, 1910 |
| Vulcan Iron Works, Limited | Tls. 40 | | Tls. 500,000 | 1,000 | Tls. 500 | Tls. 500 | — | Tls. 50 for year ended 31.8.06 | Nov. 1, 1906 |
| Yangtsze Wharf & Godown Co., Limited | Tls. 207 | | Tls. 250,000 | 2,500 | Tls. 100 | Tls. 100 | Tls 50,000 | Tls. 15 for 1909 | April 1, 1910 |
| Wei-hai-wei Land & Building Co., Limited | Tls. 9 nominal | | Tls. 91,850 | 3,674 | Tls. 25 | Tls. 25 | — | Interim of $2.00 for 1909 | Aug. 8, 1909 |
| Anglo-German Brewing Co., Limited | $85 buyers | | $100,000 | 4,000 | $100 | $100 | none | 5% for 1909 | Mar. 12, 1910 |
| Butler Tile Works, Limited | Tls. 25 | | Tls. 60,000 | 1,200 | Tls. 50 | Tls. 50 | — | Tls. 3 for year ending 31.3.09 | June 8, 1909 |
| Major Bros., Limited | Tls. 55 | | Tls. 300,000 | 6,000 | Tls. 50 | Tls. 50 | — | — | — |
| Oriental Ice Company, Limited | Tls. 20 | | Tls. 130,000 | 2,600 | Tls. 50 | Tls. 50 | — | First year | — |
| Scharffs Oil and Bone Mills, Ltd | Tls. 40 | | Tls. 200,000 | 4,000 | Tls. 50 | Tls. 50 | — | First year | — |
| Shanghai Ice Company, Limited | Tls. 12 | | Tls. 200,000 | 8,000 | Tls. 25 | | — | 3% for 1907 | Mar. 14, 1908 |
| Campbell, Moore & Co., Limited | $10 | | $12,000 | 1,200 | $10 | $10 | $9,000 | $3 for 1905 | Apr. 2, 1906 |
| Dunning & Company, Limited | $35 sellers | | $100,000 | 2,000 | $50 | $50 | — | $5 year ending 28.2.08 | Apr. 15, 1908 |
| J. Llewellyn & Co., Limited | $60 nominal | | $72,000 | 1,200 | $60 | $60 | — | 7.20 for 1909 | May 1, 1910 |
| Lane, Crawford & Company | $150 | | $250,000 | 2,500 | $100 | $100 | — | Final of 3% making 6% for 1908 | June 8, 1909 |
| S. Moutrie & Company, Limited | $40 | | $250,000 | 5,000 | $50 | $50 | — | $2 for year ended March 31, 1909 | June 18, 1909 |
| Weeks & Company, Limited | $23 | | $400,000 | 20,000 | $20 | $20 | $40,000 | Final of 6% making 10% for 1909 | June 1, 1910 |
| Dominion Rubber Co., Limited | Tls. 62½ | | Tls. 225,000 | 22,500 | Tls. 10 | Tls. 4 | — | First year | — |
| Kalumpong Rubber Co., Ltd | Tls. 700 | | Tls. 700,000 | 14,000 | Tls. 50 | Tls. 50 | ** Tls. 11,844.48 | 16% for 1908 | Nov. 9, 1909 |
| Senawang Rubber Estates Company, Limited | Tls. 1550 | | Tls. 250,000 | 2,500 | Tls. 100<br>Tls. 100 | Tls. 100<br>Tls. 75 | — | — | — |
| Tebong Rubber and Tapioca Estate, Limited | Tls. 48 | | £76,000 | 76,000 | £1 | £1 | — | — | — |
| Shanghai Mercury, Limited | Tls. 50 buyers | | Tls. 105,500 | 2,100 | Tls. 50 | Tls. 50 | — | Final of 6% making 16% year 1909 | June 22, 1910 |
| Shanghai Mutual Telephone Co., Limited | Tls. 67½ buyers | | Tls. 675,000 | 13,500 | Tls. 50 | Tls. 50 | — | Tls. 8 for 1907 | June 28, 1909 |
| China Export, Import & Lumber Company, Limited | Tls. 75 | | Tls. 350,000 | 500 | Tls. 100 | Tls. 50 | — | 5 p. c. for 1909 | May 1, 1910 |
| China Printing Co., Limited | Tls. | | Tls. 750,000 | 1,500 | Tls. 50 | Tls. 50 | — | 7% 1908 | Apr. 18, 1909 |
| Hirano Mineral Water Co., Ltd. | Y. 10 | | Y. 125,000 | 5,000 | Y. 25 | Y. 25 | — | 10%=yen 2½ for year ending 30th Sept. 08 Y. 1.20 for year ended Feb. 29 | Apr. 26, 1909 |
| E. E. Porter & Co., Limited | $50 | | $100,000 | 2,000 | $50 | $50 | — | $6 for 1907 | Apr. 22, 1908 |
| Shanghai Electric & Asbestos Company, Limited | $21 sellers | | $125,000 | 5,000 | $25 | $25 | — | 8% for year ended Feb. 28, 09 | June 21, 1909 |
| Shanghai Electric Construction Company, Limited | £6 sellers | £11 | £320,000 | 32,000 | £10 | £10 | — | First year | — |

# DEBENTURES

| LOANS | | PRICE—PLUS ACCRUED INTEREST | AMOUNT OF LOAN | OUTSTANDING | NOMINAL VALUE | RATE OF INTEREST | WHEN PAYABLE |
|---|---|---|---|---|---|---|---|
| Shanghai Municipal Debentures | 1892 | Tls. 92½ | Tls. 50,000 | Tls. 45,400 | Tls. 100 | 5 % | June & Dec. |
| do | 1893 | ,, 96 | ,, 125,000 | " 32,000 | " 100 | 5½ ,, | Do |
| do | 1894 | ,, 105 | ,, 105,000 | " 60,000 | " 100 | 6 ,, | Do |
| do | 1895 | ,, 92½ | ,, 115,000 | " 32,600 | " 100 | 5 ,, | Do |
| do | 1896 | ,, 92½ | ,, 140,000 | " 181,800 | " 100 | 5 ,, | Do |
| do | 1897 | ,, 92½ | ,, 268,800 | " 268,400 | " 100 | 5 ,, | Do |
| do | 1898 | ,, 105 | ,, 300,000 | " 60,000 | " 100 | 6 ,, | Do |
| do | 1900 | ,, 96 | ,, 83,900 | " 81,700 | " 100 | 5½ ,, | Do |
| do | 1901 | ,, 105 | ,, 250,000 | " 200,000 | " 100 | 6 ,, | Do |
| do | 1902 | ,, 105 | ,, 150,000 | " 150,000 | " 100 | 6 ,, | Do |
| do | 1903 | ,, 105 | ,, 490,500 | " 490,500 | " 100 | 6 ,, | Do |
| do | 1904 | ,, 105 | ,, 214,500 | " 214,500 | " 100 | 6 ,, | Do |
| do | 1905 | ,, 105 | ,, 320,000 | " 320,000 | " 100 | 6 ,, | Do |
| do | 1907 | ,, 105 | ,, 250,000 | " 250,000 | " 100 | 6 ,, | Do |
| Chinese Imperial Government Loan | 1886 E | ,, 250 | ,, 767,200 | " 354,400 | " 250 | 7 ,, | Mar. & Sept |
| Shanghai Land Investment Co., Debentures | 1890 | ,, 103½ | ,, 250,000 | " 250,000 | " 100 | 6 ,, | May & Nov. |
| do | 1892 | ,, 96 | ,, 250,000 | " 250,000 | " 100 | 5½ ,, | June & Dec. |
| do | 1894 | ,, 103½ | ,, 250,000 | " 250,000 | " 100 | 6 ,, | Mar. & Sept. |
| do | 1896 | ,, 92½ | ,, 250,000 | " 250,000 | " 100 | 5 ,, | June & Dec. |
| do | 1900 | ,, 103½ | ,, 250,000 | " 250,000 | " 100 | 6 ,, | April & Oct. |
| do | 1901 | ,, 104 | ,, 250,000 | " 250,000 | " 100 | 6 ,, | June & Dec. |
| do | 1901 | ,, 96 | ,, 100,000 | " 100,000 | " 100 | 5 ,, | May & Nov. |
| do | 1902 | ,, 103½ | ,, 400,000 | " 400,000 | " 100 | 6 ,, | June & Dec. |
| do | 1905 | ,, 103½ | ,, 250,000 | " 250,000 | " 100 | 6 ,, | Do |
| Shanghai Waterworks Co., Debentures | 1909 | ,, 103 | ,, 815,900 | " 815,900 | " 100 | 6 ,, | Do |
| Perak Sugar Cultivation Co., Debentures | 1902 | ,, 101 | ,, 200,000 | " 200,000 | " 100 | 7 ,, | April & Oct. |
| Shanghai Gas Co., Debentures | 1909 | ,, 103 | ,, 800,000 | " 800,000 | " 100 | 5 ,, | Do |
| Shanghai and Hongkew Wharf Co., Debentures | 1902 | ,, 102 | ,, 839,100 | " 799,800 | " 100 | 6 ,, | June & Dec. |
| Astor House Co., Debentures | 1905 | ,, 103 | ,, 750,000 | " 500,000 | " 100 | 7 ,, | Do |
| British Municipal Council, Hankow | 1901 | Sh. ,, 105 | H'kow Tls 100,000 | H'kow Tls 100,000 | " 100 | 7 ,, | June & Dec. |
| Shanghai Club Debentures | 1907 | ,, 100 | Tls. 170,000 | Tls. 170,000 | " 100 | 6 ,, | Do |
| Country Club Debentures | | ,, 97 | ,, 139,000 | " 139,000 | " 100 | 6 ,, | Do |
| do | 1907 | ,, 97 | ,, 92,000 | " 92,000 | " 100 | 6 ,, | Do |
| Lane Crawford & Co., Debentures | 1907 | ,, 102½ | ,, 110,000 | " 110,000 | " 100 | 7 ,, | Mar. & Sept. |
| Anglo-French Land Debentures | 1908 | ,, 102 | ,, 250,000 | " 250,000 | " 100 | 6 ,, | June & Dec. |
| Central Stores Ltd. Debentures | 1908 | ,, 102½ | ,, 250,000 | " 250,000 | " 100 | 8 ,, | Do |
| Shanghai Mutual Tel. Co. Debentures | 1909 | ,, 102½ | ,, 350,000 | " 200,000 | " 100 | 6 ,, | Do |

# SINGAPORE SHARE QUOTATIONS

(COURTESY MESSRS. FRASER & CO., BROKERS, SINGAPORE, AUGUST 17, 1910)

| Date of Formation. | Capital | Capital paid up | No. of Shares Issued | Issue Value | Paid up | Reserve | Last Dividend | Name | Buyers. | Sellers. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | MINING | | |
| 1903 | $300,000 | 300,000 | 30,000 | 10 | 10 | ........ | 30% for year ending 31-3-10 | Belat Tin Mining Co., Ltd. | 3.25 | 4.00 |
| 1907 | $300,000 | 225,000 | 22,500 | 10 | 10 | ........ | ........ | Bruang Ltd. | 4.75 | 5.50 |
| 1901 | $600,000 | 600,000 | 60,000 | 10 | 10 | 25,000 | 6% for year ending 30-4-09 | Bruseh Hydraulic Tin Mining Co., Ltd. | 5.00 | 6.00 |
| 1907 | $400,000 | 375,000 | 37,500 | 10 | 10 | ........ | ........ | Kanaboi, Ltd. | 2.75 | 3.00 |
| 1901 | £60,000 | 60,000 | 60,000 | 1 | 1 | ........ | 2[- interim 1909 | Kinta Tin Mines, Ltd. | 16.00 | 16.50 |
| 1905 | $150,000 | 99,000 | 9,900 | 10 | 10 | 6,485.68 | 35% for year ending 31-12-07 | Kuantan Tin Mining Co., Ltd. | 3.00 | 3.25 |
| 1906 | £120,000 | 120,000 | 120,000 | 1 | 1 | ........ | 1[- interim 1909 | Lahat Mines Ltd. | 8.50 | 9.00 |
| 1906 | $450,000 | 450,000 | 45,000 | 10 | 10 | ........ | ........ | Malacca Tin Dredging Co., Ltd. | 1.00 | 2.00 |
| 1906 | £30,000 | 30,000 | 30,000 | 1 | 1 | ........ | ........ | Malaya and Siam Corporation Ltd. | 7[6 | 10[- |
| 1906 | £250,000 | 179,500 | 500,000 | 5/- | 5/- | ........ | ........ | Pahang Consolidated Co., Ltd. | 5[6 | 7 |
| 1907 | £100,000 | 80,000 | 80,000 | 1 | 1 | ........ | ........ | Pengkalen, Ltd. | 5.50 | 6.00 |
| 1904 | £100,000 | 80,000 | 80,000 | 1 | 1 | ........ | ........ | Pusing Bahru Tin Mines, Ltd | 6.75 | 7.00 |
| 1904 | £120,000 | 100,000 | 100,000 | 1 | 1 | 6,000 | 45% for year ending 30-6-07 | Pusing Lama Tin Mines, Ltd. | .... | 3.00 |
| 1907 | $450,000 | 300,000 | 30,000 | 10 | 10 | ........ | ........ | Rahman Hydraulic Tin, Ltd. | 9.75 | 10.25 |
| 1905 | £27,000 | 27,000 | 27,000 | 1 | 1 | ........ | 1[- for 1907 | Rambutan, Ltd. | 11.50 | 12.50 |
| 1892 | £200,000 | 200,000 | 200,000 | 1 | 1 | 4,873 | 1[2 paid April, 1910 | Raub Aust. Gold Ming. Co., Ltd. | 5.00 | 5.50 |
| 1905 | £40,000 | 40,000 | 40,000 | 1 | 1 | ........ | ........ | Redhills Tin Mining Co., Ltd. | 3.00 | 3.50 |
| 1900 | $110,000 | 110,000 | 22,000 | 5 | 5 | ........ | 3% for year ending 22-1-09 | Royal Johore Tin Mining Co., Ltd. | 1.00 | 1.25 |
| 1907 | $550,000 | 500,000 | 50,000 | 10 | 10 | ........ | ........ | Salak South, Ltd. | 1.50 | 3.00 |
| 1907 | £80,000 | 80,000 | 80,000 | 1 | 1 | ........ | ........ | Sempam Tin Mines, Ltd. | 2.00 | 2.50 |
| 1906 | $850,000 | 850,000 | 85,000 | 10 | 10 | 25,000 | 5% interim 1909 | Serendah Hydraulic Tin Ming. Co., Ltd. | 6.25 | 7.00 |
| 1899 | $230,000 | 230,000 | 23,000 | 10 | 10 | ........ | 3% for ½ year ending 31-12-08 | Sipiau Tin Co., Ltd. | 1.00 | 1.50 |
| 1909 | $200,000 | $150,000 | 15,000 | 10 | 10 | ........ | ........ | Sungei Gau Tin Mining Co., Ltd. | 3.00 | 5.00 |
| 1907 | £90,000 | 70,000 | 70,000 | 1 | 1 | ........ | 1[6 interim 1909 | Tekka, Limited. | 21.50 | 22.50 |
| 1906 | £150,000 | 150,000 | 150,000 | 1 | 1 | ........ | 1[- interim 1909 | Tongkah Harbour Tin Dredging Co., Ltd. | 9.00 | 9.50 |
| 1902 | £160,000 | 160,000 | 160,000 | 1 | 1 | ........ | 3[- interim 1909 | Tronoh Mines, Ltd. | 14.25 | 15.00 |

# SINGAPORE SHARE QUOTATIONS.—(Continued.)

| Date of Formation | Capital | Capital paid up | No. of Shares Issued | Issue Value | Paid up | Reserve | Last Dividend | Name | Buyers | Sellers. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | **STERLING RUBBER** | | |
| 1909 | £85,000 | 75,000 | 750,000 | 2\|- | 2\|- | ....... | ....... | Allagar Rubber Estates, Ltd | 5\|9 | 6\|3 |
| 1905 | £150,000 | 1,500,000 | 1,500,000 | 2\|- | 2\|- | ....... | 80% for 1909 | Anglo-Malay Rub. Co., Ltd. | 1.5.0 | 1.6.0 |
| 1909 | £50,000 | 35,250 | 470,000 | 2\|- | 1\|6 | ....... | ....... | Batang Malaka Rubber Estates, Ltd. | 0\|6 | 1\|- p. |
| 1904 | £30,000 | 20,187 10/- | 19,000<br>4,750f | 1 | 1 | ....... | 50% for 1909 | Batu Caves Rub. Co., Ltd. | 16.17.6 | 17.5.0 |
| 1906 | £80,000 | 70,000 | 70,000l* | 1 | 5/- | ....... | 2½% for 1909 | Batu Tiga (Selangor) Rubber Co., Ltd. | 5.5.0 | 5.10.0 |
| 1909 | £100,000 | 74,454 | 57,816 | 1 | 1 | ....... | ....... | Bukit Kajang Rubber Estates, Ltd | 2.15.0 | 3.0.0 |
| | | | 22,184n* | 1 | 1 | ....... | ....... | " " " part paid | 2.5.0 | 2.7.6.p. |
| 1907 | £30,000 | 25,500 | 24,000 | 1 | 15\|- | ....... | ....... | Bukit Lintang Rubber Estates, Ltd | 4.2.6 | 4.10.0 |
| | | | 6,000 | 1 | 1 | ....... | ....... | " " " part paid | 2.7.6 | 2.10.0p. |
| 1903 | £70,000 | 66,700 | 66,700 | 1 | 5 | 2,000 | 90% for 1909 | Bukit Rajah Rubber Co., Ltd. | 17.15.0 | 18.5.0 |
| 1906 | £35,000 | 30,000 | 30,000 | 1 | 1 | ....... | ....... | Castlefield (K.) R. Estate, Ltd. | 6.0.0 | 6.5.0 |
| 1909 | £225,000 | 175,000 | 1750,000 | 1 | 1 | ....... | ....... | Chersonese (F.M.S.) Estates, Ltd | 4\|3 | 4\|9 |
| 1904 | £16,000 | 16,000 | 100,000 | 2/- | 2/- | ....... | 75% for 1909 | Cicely Rubber Estates Co., Ltd. | 2.3.6 | 2.5.6 |
| | | | 60,000 | 2\|- | 2/- | ....... | 78½% for 1909 | " " " " 5% Pref | 2.3.6 | 2.5.6 |
| 1905 | £75,000 | 62,007 | 620,070 | 2/- | 2\|- | ....... | 80% for 1909 | Consolidated Malay Rub. Estates, Ltd. | 1.6.9 | 1.7.6 |
| 1906 | £110,000 | 102,500 | 102,500 | 2\|- | 2\|- | 1,000 | 50% for 1909 | Damansara (Selangor) Rubber Co., Ltd. | 8.5.0 | 8.15.0 |
| 1903 | £600,000 | 447,200 | 447,200a | 1 | 1 | ....... | ....... | Duff Development Co., Ltd. | 16\|-6 | 17\|6 |
| 1909 | £45,000 | 40,000 | 400,000 | 1 | 1 | ....... | 15% for 1909 | Edinburgh Rub. Estates, (Selangor) Ld. | 14\|- | 15\|- |
| 1907 | £80,000 | 70,000 | 70,000 | 2\|- | 2\|- | ....... | 25% for 1909 | Golconda Rubber Co., Ltd. | 6.0.0 | 6.7.6 |
| 1906 | £310,000 | 305,000 | 305,000 | 1 | 1 | 8,784 | 35% for 1909 | Highlands & Lowds. Para Rub. Co., Ltd.. | 5.15.0 | 6.0.0 |
| 1904 | £50,000 | 30,000 | 30,000 | 1 | 1 | 2,500 | 25% interim | Inch Kenneth Rubber Estates, Ltd | 15.2.6 | 15.17.6 |
| 1909 | £200,000 | 143,750 | 775,000p | 1 | 1 | ....... | ....... | Kam. (P.) R. & T. Co., Ltd. "A" Shares | 6\|-6 | 7\|6 p. |
| | | | 105,000 | 2/- | 1/- | ....... | ....... | " " " " "B" " | .... | nom. |
| 1905 | £65,000 | 65,000 | 65,000 | 1 | 1 | ....... | 10% for 1909 | Kapar Para Rubber Estates, Co., Ltd | 10.2.6 | 10.15.0 |
| 1909 | £35,000 | £17,250 | 95,000 | 1 | 1 | ....... | ....... | Kota Tinggi Johore Rubber Co., Ltd | 2\|3 | 2\|9 |
| | | | 155,000 | 2/- | 2\|- | ....... | ....... | " " " | 0\|3 | 0\|9 p. |
| 1906 | £180,000 | 180,000 | 180,000 | 2\|- | 1\|- | ..... | 30% interim | Kuala Lumpur Rubber Co., Ltd | 9.0.0 | 9.10.0 |
| 1907 | £100,000 | 90,000 | 900,000 | 1 | 1 | ....... | 25% for 1909 | Labu (F. M. S.) Rub. Co., Ltd. | 16\|6 | 17\|6 |
| 1907 | £320,000 | £252,067\|10\|- | 198,930v | 2\|- | 2\|- | ....... | 27½% for 1909 | Lanadron Rubber Estates, Ltd | 5.12.6 | 6.0.0 |
| | | | 70,850 | 1 | 1 | 3,000 | 27½% for 1909 | " " " part paid | 4.7.6 | 5.0.0 p. |
| 1908 | £125,000 | 75,000 | 60,000g* | 1 | 15/- | ....... | 17½% for 1909 | Ledbury Rubber Estates Ltd. | 4.5.0 | 4.10.0 |
| | | | 40,000 | 1 | 1 | ....... | 17½% for 1909 | " " " . part paid | 2.0.0 | 2.10.0p. |
| 1895 | £100,000 | 98,324 8\|- | 883,244w | 1 | 7/6 | 4,000 | 50% interim | Linggi Plantations Ltd., | 2.12.6 | 2.15.6 |
| | | | 10,000 | 2/- | 2/- | ....... | 7% for 1909 | " " " 7% Pref | .... | nom. |
| 1907 | £140,000 | 118,000 | 1,180,000k | 1 | 1 | ....... | 12½% for 1909 | London Asiatic R. & Produce Co., Ltd.. | 12\|- | 13\|6. |
| 1909 | £220,000 | 147,500 | 50,000 | 2\|- | 2\|- | ....... | ....... | Lumut Rubber Estates, Ltd. | .... | nom. |
| | | | 150,000 | 1 | 1 | ..... | ....... | " " " " part paid | 1.7.6 | 1.10.0p. |
| 1906 | £400,000 | 300,000 | 185,000 | 1 | 13\|- | ....... | 10% interim for 1909 | Malacca Rubber Plants., Ltd. | 7.10.0 | 8.0.0 |
| | | | 115,000 | 1 | 1 | ....... | " " " | " " " " 7½% Pref. | 7.10.0 | 8.0.0 |
| 1909 | £210,000 | 175,000 | 1,750,000 | 1 | 1 | ..... | ....... | Merlimau Rubber Estates, Ltd | 6\|7½ | 7\|3 |
| 1903 | £30,000 | 22,500 | 225,000 | 2\|- | 2\|- | ....... | 125% for 1909 | Pataling Rubber Estates Synd. Ltd | 3.5.0 | 3.6.6 |
| 1906 | £85,000 | 85,000 | 850,000 | 2\|- | 2\|- | ....... | 12½% interim 1909 | Perak Rubber Plantations, Ltd | 10\|- | 11\|- |
| 1909 | £60,000 | 36,875 | 15,000z* | 2\|- | 2\|- | ....... | ....... | Rembia Rubber Estates Ltd. | .... | nom. |
| | | | 35,000 | 1 | 1 | ....... | ....... | " " " 6% Cum. Pref. | 9\|- | 10\|6 p. |
| 1904 | £25,000 | 19,092 | 17,732u | 1 | 12\|6 | ....... | 25% interim | Sagga Rubber Company, Limited | 13.0.0 | 14.00 |
| | | | 2,268 | 1 | 1 | ....... | | | | |
| 1905 | £100,000 | 100,000 | 71,378 | 1 | 12\|- | ..... | ....... | Sapong Rubber and Tobacco Estates, Ltd.. | 1.5.6 | 1.7.6. |
| | | | 28,622l‡ | 1 | 1 | ....... | | | | |
| 1907 | £100,000 | 100,000 | 100,000 | 1 | 1 | ....... | 15% for 1909 | Seafield Rubber Co., Ltd | 7.5.0 | 7.10.0 |
| 1898 | £30,000 | 30,000 | 300,000 | 2\|- | 2\|- | 3,000 | 287½% for 1909 | Selangor Rubber Co., Ltd | 3.4.0 | 3.5.6 |
| 1909 | £50,000 | 32,000 | 40,000 | 1 | 16\|- | ....... | ....... | Sendayan (F. M. S.) Rubber Co., Ltd | 2.0.0 | 2.5.0 p. |
| 1906 | £65,000 | 65,000 | 65,000 | 1 | 1 | ....... | 7½% for 1909 | Shelford Rubber Estate, Ltd | 3.13.6 | 3.17.6 |
| 1909 | £150,000 | 78,500 | 14,000i‡ | 1 | 1 | ....... | ....... | Sialang Rubber Estates, Ltd | 1.7.6 | 1.10.0p. |
| | | | 86,000 | 1 | 15\|- | ....... | | | | |
| 1909 | £120,000 | 100,000 | 100,000 | 1 | 1 | ..... | ....... | Singapore Para Rubber Estates, Ltd. | 3.10.0 | 3.12.6 |
| 1906 | £192,500 | 192,500 | 1,925,000 | 2\|- | 2\|- | ..... | 7½% interim | Straits Settlements (B.) Rub. Co., Ltd | 7\|9 | 8\|-3 |
| 1907 | £45,000 | 45,000 | 45,000 | 1 | 1 | ..... | ....... | Sungei Choh Rub.Estate, Co.Ltd. | 5.0.0 | 5.5.0 |
| 1906 | £110,000 | 100,000 | 1,000,000 | 2\|- | 2\|- | ....... | 37½% for 1909 | Sungei Kapar Rubber Co., Ltd | 16\|- | 17\|6 |
| 1907 | £70,000 | 55,000 | 55,000 | 1 | 1 | ....... | ....... | Sungei Salak Rubber Co.. Ltd | 3.17.6 | 4.5.0 |
| 1904 | £50,000 | 50,000 | 50,000 | 1 | 1 | ....... | ....... | Sungei Way (Selangor) Rub. Co., Ltd | 5.17.6 | 6.5.0 |
| 1908 | £150,000 | 60,000 | 36,000 | 1 | 1 | ....... | ....... | Tebrau (Johore) Rubber Co | 4.0.0 | 4.10.0 |
| | | | 64,000 | 1 | 7\|6 | ....... | ....... | " " " part paid | 3.0.0 | 3.2.6 p. |
| 1907 | £200,000 | 170,000 | 170,000 | 1 | 1 | ..... | 5% interim | United Serdang (S.) R. Plantations, Ltd. | 6.5.0 | 6.12.6 |
| 1908 | £85,000 | 65,000 | 650,000 | 2\|- | 2\|- | ..... | 10% for year ending 30-6-09 | United Sumatra Rubber Estates, Ltd... | 11\|6 | 12\|6 |
| 1904 | £60,000 | 50,600 | 506,000 | 2\|- | 2/- | ..... | 66⅔% interim 1909 | Vallambrosa Rubber Co., Ltd. | 2.4.0 | 2.6.0 |
| | | | | | | | | **DOLLAR** | | |
| 1909 | $120,000 | 105,000 | 105,000w* | 1 | 1 | ....... | ....... | Alor Gajah Rubber Estate, Ltd | 2.15 | 2.25 |
| 1909 | $750,000 | 700,000 | 140,000 | 5 | 5 | ... | ....... | Ayer Panas Rubber Estates, Ltd | 8.00 | 8.25 |
| 1905 | $200,000 | 151,200 | 151,200 | 1 | 1 | 5,250 | 40% interim | Balgownie Rub. Estate, Ltd | 13.00 | 13.50 |
| 1910 | $500,000 | 500,000 | 50,000 | 10 | 10 | ....... | ....... | Bukit Timah Rubber Estates, Ltd. | 16:00 | 17.00 |
| 1910 | $750,000 | 700,000 | 70,000 | 10 | 10 | ....... | ....... | Changkat Serdang Estates, Ltd | 10.75 | 11.25 |
| 1909 | $300,000 | 300,000 | 300,000 | 1 | 1 | ..... | ....... | Glenealy Plantations, Ltd | 2.20 | 2.40 |
| 1910 | $200,000 | 144,285 | 12,857m‡ | 5 | 5 | ....... | ....... | Haytor Rubber States, Ltd | .... | nom. |
| | | | 20,000 | 5 | 4 | ....... | ....... | " " " " part paid | 1.00 | 2.00 p. |
| 1910 | $600,000 | 150,000 | 30,000 | 10 | 5½ | ....... | ....... | Henrietta Estates, Ltd. | 1.00 | 2.00 p. |
| 1909 | $250,000 | 200,000 | 20,000 | 10 | 10 | ..... | ....... | Indragiri (S.) R. and Gutta P. Co., Ltd.. | 17.00 | 18.00 |
| 1910 | $350,000 | 291,000 | 11,000 | 5 | 5 | ....... | ....... | Kelemak Rubber Estate, Ltd. | 4.00 | 4.50 |
| | | | 59,000 | 5 | 4 | ....... | ....... | " " " part paid. | 1.50 | 1 dis. |
| 1907 | $300,000 | 140,000 | 20,000 | 10 | 7 | .... | ....... | Kombok Rubber Co., Ltd | 20.00 | 25.00 p. |
| 1910 | $1,000,000 | 1,000,000 | 500,000 | 2 | 2 | ....... | ....... | Malakoff Rubber Co., Ltd. | 2.50 | 2.75 |
| 1910 | $1,250,000 | 1,250,000 | 250,000 | 5 | 5 | ....... | ....... | New Singapore Rubber Co., Ltd. | 7.00 | 8.00 |
| 1909 | $400,000 | 400,000 | 80,000 | 5 | 5 | ....... | 5% interim | Pajam Limited | 14.00 | 14.50 |
| 1909 | $200,000 | 200,000 | 200,000 | 1 | 1 | ....... | ....... | Pantai, Limited | 1.50 | 1.75 |
| 1909 | $500,000 | 450,000 | 45,000 | 10 | 10 | ....... | 7½% interim | Pegoh, Limited | 27.00 | 27.50 |
| 1910 | $450,000 | 295,000 | 45,000f‡ | 5 | 5 | ....... | ....... | Port Dickson Rubber Co., Ltd | 13.00 | 14.00 |
| | | | 35,000 | 5 | 2 | ..... | ....... | " " " | 5.00 | 6.00 p. |
| 1910 | $200,000 | 150,000 | 150,000 | 1 | 1 | 20,000 | ....... | Pulo Daat Plantations, Ltd. | 1.30 | 1.40 |
| 1904 | $100,000 | 100,000 | 50,000b* | 2 | 2 | ....... | 50% pending | Sandycroft Rubber Co., Ltd | 28.50 | 29.00 |
| 1903 | $450,000 | 417,300 | 208,650 | 2 | 2 | ....... | 25% interim | Singapore & Johore Rub. Co. Ltd | 13.00 | 13.50 |
| 1909 | $250,000 | 100,000 | 10,000 | 10 | 10 | ..... | ....... | St. Helena Rubber Coy., Ltd | 30.00 | 35.00 |
| 1909 | $200,000 | 165,000 | 33,000 | 5 | 5 | ....... | ....... | Teluk Anson Rubber Estate, Ltd. | 7.00 | 7.50 |
| 1909 | $1,000,000 | 637,500 | 737,500y* | 1 | 1 | ..... | ....... | United Singapore Rubber Estates, Ltd.. | 1.75 | 1.85 |
| | | | | 1 | -\|50 | ..... | ....... | " " " " " | .... | nom. |
| | | | | | | | | **GENERAL** | | |
| 1903 | £400,000 | 400,000 | 400,000 | 1 | 1 | ....... | ....... | Singapore Electric Tramways, Co., Ltd.. | 4\|3 | 4\|6 |
| 1907 | $1,500,000 | 1,065,150 | 25,000d* | 10 | 10 | ....... | 10% for year ending 31/12/08 | Eastern Smelting Co. Ltd | ---- | 10.00 n. |
| | | | 116,450 | 10 | 7 | ....... | 10% for year ending 31-12-08 | " " " part paid | ---- | 6.00 n. |
| 1898 | $360,000 | 360,000 | 36,000 | 10 | 10 | 170,000 | 15% & 5% bon. for yr. end. 31-12-09. | Fraser & Neave, Ltd. | 28.00 | 30.00 |
| 1905 | $2,400,000 | 2,400,000 | 18,000 | 100 | ---- | 75,000 | 2½% for year ending 31-10-08 | Howarth Erskine, Ltd. | 58.00 | 60.00 |
| | | | 6,000 | 100 | ---- | ....... | 7% for year ending 31-10-08 | " " 7% Pref | 90.00 | 95.00 |
| 1896 | $1,000,000 | 1,000,000 | 6,000 | 100 | 100 | 40,600 | 12% for year ending 31-12-09 | Katz Brothers, Ltd. Deferred | ---- | 125.00 |
| | | | 4,000 | 100 | 100 | ....... | 18% " " " "09 | " " 8% Cum. Pref | ---- | nom. |
| 1901 | $34,000 | 34,000 | 3,400 | 10 | 10 | ....... | 20% for year ending 31-10-09 | Maynard & Co., Ltd. | 20.00 | 21.00 |
| 1899 | $875,000 | 875,000 | 6,000 | 100 | 100 | 175,000 | 5% for year ending 31/12/09 | Riley, Hargreaves & Co., Ltd | 77.50 | 82.50 |
| | | | 2,750 | 100 | 100 | ....... | 7% for year ending 31/12/09 | " " " " 7% Pref | 102.00 | .... |
| 1897 | £3,500,000 | 3,500,000 | 2,500,000 | 1 | 1 | 1,120,000 | 22½% for 1909 | Shell Transport and Trading Co., Ltd | 4.15.0 | 5.0.0 |
| | | | 100,000 | 10 | 10 | ....... | ....... | " " " " Pref. | 11.5.0 | 12.0.0 |
| 1903 | $600,000 | 250,000 | 25,000n | 10 | 10 | ....... | 10% for year ending 30-6-09 | Singapore Cold Storage Co., Ltd | 19.00 | 20.00 |
| 1891 | $30,000 | 30,000 | 600 | 50 | 50 | 23,000 | 10% for year ending 31-7-09 | Singapore Dispensary Ltd. | 50.00 | 52.50 |
| 1884 | $200,000 | 200,000 | 2,000 | 100 | 100 | 75,000 | 15% for year ending 31-12-09 | Straits Ice Co., Ltd | 160.00 | 165.00 |
| 1890 | $1,000,000 | 623,000 | 4,980 | 100 | 100 | 760,000q | 5% interim | Straits Steam Ship Co., Ltd. | 190.00 | 200.00 |
| | | | 2,500 | 100 | 50 | 130,000r | | " " " " " part paid | 40.00 | 50.00 p. |
| 1887 | $3,000,000 | 3,000,000 | 300,000 | 10 | 10 | 1,222,409 | 10% & 5% bon. for half yr. end. 31\|3\|10 | Straits Trading Co., Ltd | 57.00 | 57.50 |
| | | | | | | | | **DEBENTURES** | | |
| | | | | | | | | Howarth Erskine, Ltd. 6% $600,000 | .... | par. |
| | | | | | | | | Riley, Hargreaves & Co., Ltd. 6% 284,000 | 1% | 3% p. |
| | | | | | | | | Singapore Electric Tramways, Co., Ltd. 5% £350,000 | .... | .... |
| | | | | | | | | Singapore Municipal 5% 1,878,000 | .... | nom. |
| | | | | | | | | " " 4½% of 1907 1,600,000 | 6% | 7% p. |
| | | | | | | | | " " 4½% of 1909 1,000,000 | 7% | 8% p. |
| | | | | | | | | " " 4% 602,900 | .... | 7% dis. |

a { 152,800 unissued; 43,949 6% debenture
e { 54,500 £1 Prefs. issued; 45,500 £1 " unissued; 100,000 5|- Ord. "
f 6,250 unissued
k £40,000 6% Debentures 220,000 unissued
p 175,000 unissued "A" shares
q Sundry Reserves.
r "
u 5,000 issued £1 prem.
v 50,220 unissued
w 16,756 "
b* 221 7½% Debentures
d* 8,550 unissued
g* 25,000 "
l* £10,000 Convertible 6% Debentures issued £10,000 do. unissued
n* 20.000 unissued
y* 262,500 "
z* 10,000 "
i‡ 50,000 "
l‡ 6% Deb. Stock Convertible.
m‡ 7,143 unissued.

# YOKOHAMA SHARE QUOTATIONS

COURTESY A. C. HUTTON POTTS, SHARE AND GENERAL BROKER, YOKOHAMA, AUGUST 25TH, 1910.

| STOCKS. | CAPITAL. | NO. OF SHARES. | ISSUE VALUE. | AMOUNT PAID UP. | DATE. | LAST DIVIDEND. | FOR TERM. | CLOSING QUOTATION. |
|---|---|---|---|---|---|---|---|---|
| Brett & Co., Ltd. | -Y- 28,000 | 2,800 | -Y- 10 | -Y- 10 | 31-12-09 | 12½% | for 1 year | 15 Sellers |
| Club Hotel, Ltd. | 185,000 | 1,850 | 100 | 100 | 31-3-10 | 6% | for 1 year | 70 Nominal |
| Grand Hotel, Ltd. | 500,000 | 5,000 | 100 | 100 | 31-6-10 | 5% | for ½ year | 95 Sales. |
| Helm Bros., Ltd. | 186,000 | 3,720 | 50 | 50 | 31-12-10 | 17½% | for 1 year | 85 Sales. |
| Langfeldt & Co., Ltd. | 100,000 | 2,000 | 50 | 50 | 31-6-09 | 6% | for ½ year | 60 Nominal. |
| C. Nickel & Co., Ltd. † | 500,000 | 20,000 | 25 | 25 | 31-10-09 | 20% | for 1 year | 50 Sales. |
| Thwaites, Limited | 100,000 | 2,000 | 50 | 50 | First Year | — | — | |
| Yokohama Engine and Iron Works * | 500,000 | 10,000 | 50 | 50 | 31-5-09 | — | for 1 year | 50 Nominal |
| Oriental Hotel, Ltd., Ordinary | 250,000 | 3,000 | 50 | 50 | 31-8-07 | 12% | for 1 year | 50 Sales. |
| Oriental Hotel, Ltd., Preference | | 2,000 | 50 | 50 | | 8% | for 1 year | 52:50 Sales |
| The Union Estate and Investment Co., Ltd. ‡ | 1,000,000 | 10,000 | 100 | 100 | 30-9-09 | 6½% | for 1 year | 100 Nominal. |
| The Clifford Wilkinson Tansan Mineral Water Co., Ltd. § | 500,000 | 5,000 | 100 | 100 | 31-12-09 | 7% | for 1 year | 100 Buyers. |

† 285,000 unissued.
‡ 475,000 unissued.
*-Y- 390,000 issued.
§-Y- 375,800 issued.

| DEBENTURE LOANS. | AMOUNT OF LOAN. | FACE VALUE OF DEBENTURES. | RATE OF INTEREST. | INTEREST PAYABLE. | CLOSING QUOTATION. |
|---|---|---|---|---|---|
| Brett & Company, Limited | 11,500.00 | 100.00 | 7% | 1 June and 1 Dec. | 95 Sales. |
| Yokohama United Club | 230,000.00 | 100.00 | 6% | 30 June and 31 Dec. | 102 Nominal. |
| Oriental Hotel, Limited | 350,000.00 | 100.00 | 8% | 1 April and 1 Oct. | 103 Sales. |
| Union Estate and Investment Co., Limited | 250,000.00 | 100.00 | 6% | 30 June and 31 Dec. | 95 Sellers. |

| JAPANESE STOCKS. | FACE VALUE. | AMOUNT PAID UP. | LAST DIVIDEND. | DIVIDEND PAYABLE. | CLOSING QUOTATION. |
|---|---|---|---|---|---|
| **Bonds & Debentures.** | | | | | |
| Exchequer Bonds 2nd issue | -Y-100 | -Y-100 | 5% | March and Sept. | -Y-101.70 |
| Exchequer Bonds 3rd issue | 100 | 100 | 5% | March and Sept. | „ 101.70 |
| Railway Bonds (Ko-Gobu) | 100 | 100 | 5% | June and Dec. | „ 101.70 |
| 4% Imperial Loan Bonds (1st issue) | 100 | 100 | 4% | June and Dec. | „ 96.00 |
| 4% Imperial Loan Bonds (2nd issue) | 100 | 100 | 4% | March and Sept. | „ 97.00 |
| Imperial 5% Bonds | 100 | 100 | 5% | March and Sept. | „ 101.30 |
| Special 5% Bonds (issued 1906) | 100 | 100 | 5% | June and Dec. | „ 100.10 |
| Yokohama Water Works Bonds | 100 | 100 | 6% | June and Dec. | „ 105.00 |
| Yokohama City Public Loan Bonds | 100 | 100 | 6% | March and Sept. | „ 105.50 |
| Osaka City Harbour Construction Bonds | 100 | 100 | 6% | June and Dec. | „ 105.50 |
| Osaka City Public Loan Bonds | 100 | 100 | 6% | June and Dec. | „ 105.50 |
| Kawasaki Dock Yards Co.'s Debentures | 100 | 100 | 7% | June and Dec. | „ 104.00 |
| Tokyo Race Associations " | 500 | 500 | 30% | June and Dec. | „ 180.00 |
| **Railways & Electric Trams.** | | | | | |
| Tokyo Railway Company, Limited | 50 | 50 | 5 2[5% | June and Dec. | „ 72.65 |
| Yokohama Electric Tramway Company, Limited | 50 | 50 | 6% | July and Jan. | „ 55.50 |
| Keihin Electric Tramway Company, Limited | 50 | 50 | 6% | June and Dec. | „ 51.50 |
| Southern Manchurian Railway Co., Ltd. | 100 | 20 | 6% | June and Dec. | „ 46.00 |
| Hanshin Electric Tramway Co., Ltd. | 50 | 50 | 12% | May and Nov. | „ 131.00 |
| **Cotton Spinnings.** | | | | | |
| Kanegafuchi Cotton Spinning Company, Limited | 50 | 50 | 14% | July and Jan. | „ 104.00 |
| Fuji Gassed-yarn Company, Limited | 50 | 50 | 14% | July and Jan. | „ 88.95 |
| Tokyo Cotton Spinning Company, Limited | 50 | 50 | 8% | July and Jan. | „ 43.80 |
| Imperial Hemp Weaving Company, Limited | 50 | 50 | 12% | July and Jan. | „ 73.00 |
| Nisshin Boseki Kabushiki Kaisha | 50 | 17½ | 7% | — | „ 12.55 |
| **Sugar & Beer Cos.** | | | | | |
| Dai-nippon Sugar Refinery Company, Limited | 50 | 50 | ....... | May and Nov. | „ 36.00 |
| Ensuiko Sugar Refinery Company, Limited | 50 | 20 | 20% | June and Dec. | „ 50.25 |
| Dai-nippon Beer Company, Limited | 50 | 50 | 12% | July and Jan. | „ 81.70 |
| Kirin Brewery Company, Limited | 50 | 50 | 7% | July and Jan. | „ 53.00 |
| **Docks & Steamships.** | | | | | |
| Yokohama Dock Company, Limited | 50 | 33 | 12% | June and Dec. | „ 63.50 |
| Uraga Dock Company, Limited | 50 | 50 | ....... | July and Jan. | „ 7.50 |
| Kawasaki Dockyard Company, Limited | 50 | 50 | 12½% | Feb. and Aug. | „ 54.00 |
| Nippon Yusen Kaisha | 50 | 50 | 10% | May and Nov. | „ 98.00 |
| Hokkaido Tanko S. S. Company, Limited | 50 | 50 | 5% | July and Jan. | „ 29.00 |
| **Miscellaneous.** | | | | | |
| Tokyo Electric Light Company, Limited | 50 | 50 | 12% | June and Dec. | „ 104.70 |
| Tokyo Gas Company, Limited | 50 | 50 | 13% | July and Jan. | „ 116.95 |
| Yokohama Union Electric Light Company, Limited | 50 | 50 | 14% | June and Dec. | „ 113.00 |
| Fuji Paper Mills | 50 | 50 | 6% | June and Dec. | „ 30.00 |
| Otaru Timber Company, Limited | 50 | 50 | ....... | March and Sept. | „ 13.00 |
| Hoden Petroleum Company, Limited | 50 | 50 | 20% | April and Oct. | „ 70.00 |
| Tokyo Rope Manufacturing Company, Limited | 50 | 50 | 18% | June and Dec. | „ 112.00 |
| Japan Horse Improvement Company, Limited | 50 | 50 | ....... | March and Sept. | „ 14.00 |
| Tokyo Stock Exchange Company | 50 | 50 | 15 1[5% | June and Dec. | „ 213.00 |
| Osaka Electric Light Company, Limited | 50 | 50 | 16% | July and Jan. | „ 142.00 |
| Kobe Electric Light Company, Limited | 50 | 50 | 14% | July and Jan. | „ 107.00 |

# BANGKOK SHARE QUOTATIONS

(COURTESY MESSRS. EDWARDS & CO., BANGKOK, SIAM.) JULY 1, 1910

| NAME. | BUYERS. | SELLERS. | LAST SALES. | ESTABLISHED. | CAPITAL. | NO. OF SHARES. | ISSUE VALUE. | AMOUNT PAID UP. | RESERVE FUND. | LAST DIVIDEND |
|---|---|---|---|---|---|---|---|---|---|---|
| Siam Electricity Co., Ltd. | Tcs. 300 | Tcs. 325 | Tcs. 325 | 1901 | £ 300,000 | 30,000 | £ 10— | £ 300,000 | Tcs. 491,338 | 12% Tcs. 4 bon. |
| Paknam Railway Co., Ltd. | „ 200 | „ — | „ 220 | 1893 | Tcs. 400,000 | 5,000 | Tcs. 80 | Tcs. 400,000 | „ [illegible]7,566 | 14% |
| Siam Tramway Co., Ltd | „ — | „ — | „ 108 | 1905 | „ 1,450,000 | 6250 Shares<br>7250 Deb.<br>1000 P. Shares | „ 100 | „ 2,230,000 | „ 1,875 | — |
| Meklong Railway Co., Ltd. | „ 90 | „ 100 | „ 90 | 1907 | „ 2,230,000 | 22,300 | „ 100 | „ 223,000 | „ 28,000 | 5% |
| Bangkok Manufact. Co., Ltd. | „ — | „ — | „ 132 | 1898 | „ 400,000 | 4,000 | „ 100 | „ 400,000 | „ 60,000 | 7% per for 6 months |
| Bangkok Dock Co., Ltd. | „ — | „ 135 | „ 135 | 1865 | „ 1,000,000 | 10,000 | „ 100 | „ 950,000 | „ 220,000 | |
| Siam Steam Packet Co. | „ 80 | „ 909 | „ 90 | 1898 | „ 190,000 | 3,800 | „ 50 | „ 190,000 | „ 34,000 | 5% |
| Siam Commercial Bank | „ 1,000 | „ 1,500 | „ 1,000 | 1906 | „ 3,000,000 | 3,000 | „ 1,000 | „ 3,000,000 | „ 338,850 | 4% for 6 mos. |
| Menam Motor Boat Co. | „ 75 | „ 90 | „ 90 | 1905 | „ 200,000 | 2,000 | „ 100 | „ 200,000 | — | none |
| Transport Co., Motor | „ — | „ 75 | „ 100 | 1906 | „ 200,000 | 2,000 | „ 100 | „ 200,000 | — | — |
| Jenderata Rubber Co.* | „ — | „ 325— Ticals | „ 825 (for six calls) | 1906 | £ 40,000 | 4,000 | £ 10 | £ 7.-paid | — | — |
| Bagan Rubber Co. | „ — | „ 100 | „ 100 | 1907 | Tcs. 300,000 | 3,000 | Tcs. 100 | Tcs. 40 per share | — | — |
| Siam Steam Navigation Co., Ltd. | „ 300 | „ 825 | „ — | 1909 | „ 2,000,000 | 10,000 | „ 200 | — | „ 10,000 | — |
| Siam Stone Works, Ltd. | „ — | „ — | 100 | 1909 | „ 350,000 | 3,500 | „ 100 | „ 350,000 | — | 6% half year |
| Kombok Rubber Co. | „ 25 | „ 35 | 32 | 1906 | $ 300,000 | 30,000 | $ 100 | $7, per Share | — | — |

# PHILIPPINE SHARE REPORT

COURTESY B. A. GREEN, GENERAL, SHARE, BOND AND INVESTMENT BROKER.—*Manila, P. I., September 10, 1910.*

| Name | Closing Quot'n | When Incorporated | Authorized Capital | Issue Value of Shares | Number of Shares | Number of Shares Subscribed | Paid up | Reserve Fund | Working Account | Date | Last Dividend |
|---|---|---|---|---|---|---|---|---|---|---|---|
| American Drug Store | | 1908 | ₱ 100,000 | ₱1,000 | 100 | 51 | ₱1,000 | ₱5,000 | ₱ 50,000 | June 30, 1910. | |
| Antamok Valley Mining Co | ₱0.45 | 1909 | 500,000 | 1 | 500,000 | 320,000 | 1 | | | | First year |
| Banco Español Filipino | ₱235. | 1851 | 3,000,000 | 200 | 15,000 | 12,980 | 200 | 408,715 | | July 1, 1910. | 5% First Half 1910 |
| Bayhay Valley Oil Co | 100. | 1909 | 100,000 | 100 | 1,000 | | 100 | | | | First year |
| Benguet Commercial Co | 85. | 1908 | 200,000 | 100 | 2,000 | 736 | 100 | | | | 8% for 1906 |
| Benguet Consolidated Mining Co | 0.70 | 1903 | 2,000,000 | 2 | 1,000,000 | 495,000 | 2 | | | | |
| Bua Mining Co. | | | | | | | | | | | |
| Common | 90. | 1905 | 750,000 | 100 | 7,000 | 3,366 | 100 | | | | |
| Preferred | 140. | | | 100 | 500 | 500 | 100 | | | | |
| Cadwallader-Gibson Lumber Co | | 1908 | 1,000,000 | 100 | 10,000 | 8,650 | 100 | | | | |
| Camote-Clayton Mining Co | | 1909 | 400,000 | 10 | 40,000 | 26,000 | 10 | | | | First year |
| Compania Maritima | 41. | 1894 | 510,000 | 100 | 5,100 | 5,100 | 100 | | | | 20% for 1902 |
| East Batan Coal Mining Co | 33. | 1909 | 3,000,000 | 50 | 60,000 | 40,000 | 50 | | | | First year |
| El Varadero de Manila | 70. | 1885 | 450,000 | 100 | 4,500 | 4,500 | 100 | | | | 3½% for 1909 |
| Electrical Supply Co | | 1909 | 100,000 | 100 | 1,000 | 500 | 72 | | | | First year |
| Export & Import Lumber Co | | 1908 | 200,000 | 200 | 1,000 | 1,000 | 200 | | | | |
| Escolta Press Inc | 105. | 1907 | 50,000 | 100 | 500 | 320 | 100 | | | | 12% for 1909 |
| Fabrica de Hielo de Manila | 62. | 1894 | 350,000 | 50 | 7,000 | 7,000 | 50 | | | | 3% for 1st Qt. 1910 |
| Germinal Cigar Factory | 440. | 1900 | 1,500,000 | 500 | 3,000 | 3,000 | 500 | | | | 12% for 1909 |
| H. E. Heacock & Co | | 1909 | 100,000 | 100 | 1,000 | 800 | 100 | | | | First Year |
| Headwaters Mining Co | 10. | 1908 | 600,000 | 10 | 60,000 | 35,000 | 10 | | | | |
| Insular Lumber Co | 140. | 1907 | 2,000,000 | 200 | 10,000 | 9,000 | 200 | | | | |
| Lepanto Mining Co | | 1906 | 1,000,000 | 100 | 10,000 | 8,000 | 100 | | | | |
| Juan Seiboth Co | | 1908 | 150,000 | 20 | 7,500 | 500 | 20 | | | | |
| La Concha Button Factory | 95. | 1905 | 75,000 | 100 | 750 | 530 | 100 | | | | 15% for 1909 |
| Los Banos Improvement Co | 150. | 1908 | 100,000 | 200 | 500 | 500 | 200 | | | | 8% for 1908 |
| Lambert, Springer Co | | 1908 | 200,000 | 1,000 | 200 | 80 | 1,000 | | | | |
| Luzon Stevedoring Co | 25. | 1909 | 250,000 | 25 | 10,000 | 4,200 | 25 | | | | |
| Luzon Sugar Refining Co | | 1882 | 700,000 | 100 | 7,000 | 7,000 | 100 | | | | 3% for 1907 |
| Manila Electric Ry. & Light Co | 125. | 1903 | 12,000,000 | 200 | 60,000 | | 200 | | | | 4% for 1909 |
| Manila Hotel Co | 100. | 1909 | 400,000 | 100 | 4,000 | 3,500 | 100 | | | | Under Construction |
| Minas Carbon de Batan | 240. | 1902 | 1,000,000 | 200 | 5,000 | 1,523 | 200 | | | | |
| Mindanao Herald Publishing Co | | 1907 | 15,000 | 100 | 150 | 75 | 100 | | | | ½% for 1908 |
| Paracale Gold Dredging Co | 15. | 1907 | £10,000 | £1 | 10,000 | 10,000 | £1 | | | | £1 for 1908-9 |
| Paracale Ext. Gold Dredging Co | 10. | 1909 | ₱450,000 | ₱10 | 45,000 | | ₱10 | | | | First Year |
| Palomar Park Amusement Co | 0.25 | 1908 | 300,000 | 1 | 300,000 | | 1 | | | | |
| Phil. Hemp Machine Co | | 1908 | 1,000,000 | 100 | 10,000 | | 100 | | | | |
| Philippine Publishing Co | 120. | 1907 | 600,000 | 200 | 3,000 | 2,200 | 120 | | | | 5½% for 1910 |
| Philippine Co., Ltd | 10. | 1904 | 750,000 | 10 | 75,000 | 75,000 | 10 | | | | |
| Philippine Gold Dredging Co | 10. | 1907 | 200,000 | 10 | 20,000 | 20,000 | 10 | | | | |
| Philippine Rosin & Turpentine Co. | | 1908 | 150,000 | 1 | 150,000 | 70,000 | 1 | | | | |
| Philippine Exploration Co | 12. | 1908 | 2,000,000 | 10 | 200,000 | 120,000 | 10 | | | | |
| Port Banga Lumber Co | | 1908 | 100,000 | 100 | 1,000 | 934 | 100 | | | | |
| Rosenstock Publishing Co | | 1908 | 75,000 | 10 | 7,500 | 6,000 | 10 | | | | |
| San Nicolas Iron Works | 100. | 1901 | 300,000 | 500 | 600 | 600 | 500 | | | | 15% for 1903 |
| San Mauricio Gold Mining Co | 35. | 1908 | 4,000,000 | 200 | 20,000 | 20,000 | | | | | |
| Sanitary Steam Laundry | 21. | 1908 | 100,0000 | 20 | 5,000 | 3,000 | 20 | | | | |
| Tarlac Railway Co | 65. | 1906 | 150,000 | 100 | 1,500 | 1,500 | 100 | | | | |
| Tumbaga Mining Co | 15. | 1909 | 1,000,000 | 40 | 25,000 | 24,125 | 40 | | | | First Year |
| Union Hemp Machine Co | | 1909 | 50,000 | 10 | 5,000 | 2,600 | 10 | | | | First Year |
| Walter E. Olsen Co | 100. | *1909 | 500,000 | 100 | 5,000 | 2,033 | 100 | | | | First Year |
| Zamboanga Cold Storage Co | 125. | 1903 | 40,000 | 100 | 400 | 200 | 100 | | | | 20% for 1909 |

# PHILIPPINE BONDS

| | Dated | Authorized | Issued | Outstanding | Par Value | Rate of Int. | When payable | Last Quotation |
|---|---|---|---|---|---|---|---|---|
| Philippine Friar Land Bonds | Feb. 1st, 1904 | $7,000,000 | $7,000,000 | $7,000,000 | $ 100 | 4% | Feb. 1, 1914 | 104[illegible] |
| Public Works and Permanent Improvement Bonds | March 1, 1905 | $5,000,000 | $2,500,000 | $2,500,000 | $ 100 | 4% | March 1, 1915 | 104[illegible] |
| Do. | Feb. 1, 1906 | | $1,000,000 | $1,000,000 | $ 100 | 4% | Feb. 1, 1916 | 104[illegible] |
| Manila Sewer and Water Works Improvement Bonds | June 1, 1905 | $4,000,000 | $1,000,000 | $1,000,000 | $ 100 | 4% | June 1, 1915 | 104[illegible] |
| Do. | Jan. 2, 1907 | | $2,000,000 | $2,000,000 | $ 100 | 4% | Jan. 2, 1917 | 104[illegible] |
| Philippine Railway First Mortgage Four per cent Thirty Year Sinking Fund Gold Bonds | July 1. 1907 | $15,000,000 | $5,736,000 | $5,736,000 | $1000 | 4% | July 1, 1937 | 97 |

*Payment of interest guaranteed until maturity or redemption by the Philippine Government.

## Professional Cards


**CEMENT TESTS**

Made according to the latest British Standard Specification, or to any other, as required : : : :

**COAL TESTS**

Ordinary tests. Caloriphic value. Elementary analysis

MINING INSTITUTE AND ANALYTICAL LABORATORY

Dr. LIVIO SILVA

EXAMINATIONS AND REPORTS FOR FINANCING

CABLE ADDRESS: "YOUNGENG" NEW YORK

**C. G. Young**

Engineering and Construction, Steam and Electric Railways, Public Utilities and Industrials, REPORTS for FINANCING.

IN ANY PART OF THE WORLD -:- SIXTY WALL ST., NEW YORK

# ALPHABETICAL LIST OF ADVERTISERS


| Advertiser | Page |
|---|---|
| Alhambra Cigar & Cigarette Factory | 34 |
| American Asiatic S. S. Co | 31 |
| American Hardware & Plumbing Co | 23 |
| Anderson & Co., Wm. H | 41 |
| Anderson, Meyer & Co | 30 |
| Arnhold Karberg & Co | 19 |
| Astor House Hotel Co | 53 |
| Atlantic, Gulf & Pacific Co | 27 |
| Baldwin Locomotive Works | 32 |
| Banco Español Filipino | Cover |
| Bell, David W | 18 |
| Bohler Bros & Co. | 57 |
| British American Tobacco Co., Ltd. | 85 |
| Cadwallader-Gibson Lumber Co. | 28 |
| California-Manila Lumber Co. | 21 |
| Carmichael & Clarke | 10 |
| Chee Hsin Cement Co., Ltd | 42 |
| China Import Export Lumber Co. | 51 |
| China Merchants Steam Nav. Co. | 38 |
| China Mutual Life Insurance Co. | 52 |
| China and Manila S. S. Co | 31 |
| Chinese Eng. & Mining Co | 4 |
| Chinese Eastern Railway | 16 |
| Cia. General de Tabacos Filipinas. | 36 |
| Cia. Trasatlantica | 35 |
| Clarke, M. A | 44 |
| Cook's Sons, Adam | 51 |
| Defiance Machine Works | 20 |
| Derham Bros | 23 |
| Detroit Engine Works | 29 |
| Deutsch-Asiatische Bank | 1 |
| Dickeson, Jones & Co | 48 |
| Dollar, Co., The Robert | 39 |
| Earnshaw, M. & Co., Inc | 7 |
| East Asiatic Dredging Co | 27 |
| Eastern Engineering Co | 5 |
| Electrical Supply Co. Inc | 60 |
| Export and Import Lumber Co | 23 |
| Fearon, Daniel & Co | 13–30 |
| Fairbanks Morse & Co | 5 |
| Ferro Machine & Foundry Co | 29 |
| Fox Typewriter | 38 |
| Fressel, C. & Co | 24 |
| Fushun Coal | 8 |
| Gardner Governor Co | 32 |
| General Electric Co | 20 |
| Germann & Co., Ltd | 28 |
| Germinal Cigar Factory | 35 |
| Gordon & Co | 52 |
| Grand Rapids Gas Engine & Yacht Co | 29 |
| Gray Motor Co | 29 |
| Green Island Cement Co., Ltd. | 40 |
| Greilsammer Bros | 24 |
| Han-yeh-Ping Iron & Coal Co. Ltd. | 59 |
| Hanyang Iron & Steel Works | 61 |
| Harvey, Stuart S. | 45 |
| Hongkong Rope Mfg. Co., Ltd | 31 |
| Hongkong & Shanghai Banking Corp | Cover |
| Hongkong & Whampoa Dock Co., Ltd | 10 |
| Honolulu Iron Works Co | 58 |
| Hotel de France | 51 |
| Hotel St. Francis | 59 |
| Hupeh Cement Co | 42 |
| Imperial Hotel, Ltd | 52 |
| International Correspondence Schools | 13 |
| International Cold Stores, Ltd | 41 |
| International Banking Corp | Cover |
| Jardine, Matheson & Co | 25 |
| Kawasaki Dockyard Co. Ltd | 7 |
| Kiangnan Dock & Engineering Works | 8 |
| La Parisien Carriage Factory | 84 |
| Lambert-Springer Co | 62 |
| Lodge & Shipley Machine Tool Co. | 27 |
| Malthoid | 60 |
| Melchers & Co | 10 |
| Michigan Steel Boat Co | ... |
| Mitsu Bishi Dockyard & Eng. Works | 6 |
| Mitsui Bussan Kaisha | 5–47 |
| Morse & Son, A. J | 150 |
| Murray, Wilbur H. Mfg. Co | 57 |
| New Metropole Hotel | 52 |
| New Engineering and Shipbuilding Works, Ltd | 11 |
| Nicholson, C. S | 6 |
| Nippon Yusen Kaisha | 39 |
| North British Locomotive Co. Ltd. | 49 |
| Olsen & Co., Walter E | Cover |
| Pacific Mail S. S. Co | 37 |
| Pacific Tank and Pipe Co | 62 |
| Paraffine Paint Co | 62 |
| Penberthy Injector Co | 82 |
| Philippine Islands | 2 |
| Pickett Harness Co | 34 |
| Port Banga Lumber Co | 24 |
| Racine, Ackermann & Co | 41 |
| Remington Typewriter Co | 83 |
| Rose, Downs & Thompson, Ltd | 46 |
| Russo-Chinese Bank | 1 |
| San Miguel Brewery | 52 |
| Santa Mesa Rope Works | 13 |
| Schuchardt & Schütte, Berlin | 43 |
| Shanghai Dock & Eng. Co., Ltd | 12 |
| Shanghai Electric and Asbestos Co., Ltd | 46 |
| Shanghai Gas Co., Ltd | 28 |
| Shanghai Nanking Railway | 15 |
| Shanghai Machine Co | 26 |
| Shanghai Waterworks Co. Ltd | 50 |
| Shewan, Tomes & Co. | 48 |
| Siemens Schuckert | 17 |
| Siemssen & Co | 22 |
| Southern Pacific Co | 37 |
| South Manchuria Railway Mining Dept | 3 |
| South Manchuria Railway | 14 |
| Stevenson & Co., Ltd., W. F | 10 |
| Strong, Frank L | 45 |
| Superior Wrench Co | 29 |
| Swift & Co | 32 |
| Taikoo Dockyard and Engineering Company of Hongkong, Ltd | 9 |
| Thompson F. H | 51 |
| Toyo Kisen Kaisha | 29 |
| Truscott Boat Mfg. Co | 50 |
| Trussed Concrete Steel Co | 82 |
| Tsingtauer Werft | 56 |
| United States Steel Products Export Co | 51 |
| Vander Loo & Co. F. A | 31 |
| Vulcan Iron Works | 57 |
| Vulcan Iron Works Ltd | 12 |
| Warner Barnes & Co., Ltd | 21 |
| Wen Ming Press | 26 |
| White & Co. (Inc.), J. G | 34-60 |
| Western Electric Co | 58 |
| Westinghouse Brake Co., Ltd | 57 |
| Wood Waste Distilleries Co | 43 |
| Woosung Car Shops | 55 |
| W. T. Henley's Telegraph Work Co., Ltd | 18 |
| Ynchausti & Co | 27 |
| Yokohama Specie Bank | 1 |
| Young, C. G | 149 |
| Zimmerman Steel Co | 60 |


## Classified dvertisers' Directory

*(Please mention this journal)*


**AGRICULTURAL IMPLEMENTS**
Anderson & Co. W. H.
Germann & Co., Ltd.

**ALCOHOL DISTILLERS**
Cia. General de Tabacos de Filipinas.
Ynchausti & Co.
Wood Waste Distilleries Co

**ASBESTOS GOODS**
Shanghai Electric & Asbestos Co., Ltd.

**BANKS**
Deutsch-Asiatische
Hongkong and Shanghai Banking Corp.
International Banking Corp.
Banco Español Filipino
Russo-Chinese Bank
Yokohama Specie Bank, Ltd.

**BOILER MAKERS**
Babcock & Wilcox (D. W. Bell)

**BOILERS (PATENT WATER TUBE STEAM)**
General Electric Co.
Jardine Matheson & Co.

**BREWERIES**
San Miguel Brewery

**BRIDGE-BUILDERS**
Atlantic, Gulf and Pacific Co
White & Co., Inc., J. G.

**BROKERS, GENERAL**
C. S. Nicholson

**BUILDING MATERIALS**
California-Manila Lumber Com. Co.
Malthoid Paraffine Paint Co.
W. H. Anderson & Co.
Samuel McGregor & Co.

**CABLES, TELEPHONE, TELEGRAPH SUPPLIES**
David W. Bell
W. T. Henley's Telegraph Works Co., Ltd.
Melchers & Co.

**CARRIAGES**
Wilbur H. Murray Mfg. Co.

**CEMENT**
Anderson & Co., W. H.
Chee Hsin Cement Co., Ltd.
Chinese Engineering and Mining Co., Ltd.
Green Island Cement Co., Ltd.
Racine, Ackermann & Co.

**CIGAR AND CIGARETTE MANUFACTURERS**
Alhambra Cigar & Cigarette Factory.
Castle Bros.-Wolf & Sons
Cia. Gral. de Tabacos de Filipinas
Germinal Cigar Factory
Olsen & Co., Walter E.

**CIVIL ENGINEERS**
Eastern Eng. Co.
C. G. Young

**COAL DEALERS**
Chinese Engineering and Mining Co., Ltd.
The Mitsui Bussan Kaisha
South Manchuria Railway Co.
The Han-Yeh-Ping Iron & Coal Co. Ltd.

**COAL HANDLING MACHINERY**
Atlantic, Gulf & Pacific Co.

**COFFEE DEALERS (WHOLESALE)**
M. A. Clarke (Mayon)

**CONTRACTORS, (GENERAL)**
Atlantic, Gulf and Pacific Co.
Bohler Bros. & Co.
Frank L. Strong
Germann & Co., Ltd.
Gordon & Co.
Lambert-Springer Co.
Siemssen & Co.
White, & Co. Inc., J. G.

**CONTRACTORS, ELECTRICAL**
Arnhold, Karberg & Co.
Electrical Supply Co. Inc.
Germann & Co., Ltd.
Shanghai Electric & Asbestos Co., Ltd.
Shewan Tomes & Co.
Frank L. Strong
Siemens Shuckert
Siemssen & Co.

**CONSULTING ENGINEERS**
Atlantic, Gulf & Pacific Co.
Carmichael & Clarke.
Germann & Co., Ltd.
White & Co., Inc. J. G.
C. G. Young

**DIVING APPARATUS**
A. J. Morse & Son

**DREDGERS**
Dickeson, Jones & Co.
Melchers & Co.
Rose, Downs & Thompson, Ltd.

**DRY CELLS**
T. H. Thompson.

**EDUCATIONAL**
I. C. S. Correspondence Schools.

**ELECTRIC LIGHTING PLANTS**
Anderson Meyer & Co.
Arnhold, Karberg & Co.
Electrical Supply Co. Inc.
Fearon, Daniel & Co.
General Electric Co.
Germann & Co., Ltd.
Siemens Shuckert
Siemssen & Co.
Shewan, Tomes & Co.
Western Electric Co.

**ELECTRICAL SUPPLIES**
Anderson Meyer & Co.
Arnhold Karberg & Co.
Electrical Supply Co. Inc.
Jardine, Matheson & Co.
Babcock & Wilcox (D. W. Bell)
Belliss & Morcom (D. W. Bell)
Fearon, Daniel & Co.
General Electric Co.
Melchers & Co.
Shanghai Electric & Abestos Co. Ltd.
Shewan, Tomes & Co.
Siemens Shuckert
Siemssen & Co.
Western Electric Co.

**ENGINES (PUMPING)**
Belliss & Morcom (D. W. Bell)
Siemssen & Co.

**EXCAVATORS AND ELEVATOR**
Dickeson, Jones Co.
Rose, Downs & Thompson, Ltd
Siemssen & Co.

**EXPLOSIVES**
Jardine Matheson & Co.

**FIBRE MACHINERY**
Dailey, C. E.

**FOOD PRODUCTS**
Anderson & Co., W. H.
Swift & Co.

**GAS. ENGINES**
Fairbanks, Morse & Co.
Castle Bros.-Wolf & Sons
Detroit Engine Works
Shanghai Gas Co., Ltd.
Truscott Boat Mfg. Co.
Melchers & Co.

**HARDWARE**
Springer-Lambert Co.

**HARNESS MANUFACTURERS**
Pickett Harness Co.

**HOTELS**
Astor House Hotel Co.
Hotel de France
Hotel St. Francis
Tokyo Imperial Hotel
New Metropole Hotel

**ICE MACHINERY**
Vulcan Iron Works
Melchers & Co

**INJECTORS**
Penberthy Injector Company.

**INSURANCE**
Stevenson & Co., Ltd., W. F.

**JOURNALS, SCIENCE**
The Philippine Journal of Science

**LIFE INSURANCE**
China Mutual Life Insurance Co., Ltd.
Shanghai Life Insurance Co., Ltd.

**LITHOGRAPHERS**
The Wen Ming Press.

**LUMBER DEALERS**
Cadwallader-Gibson Lumber Co.
California-Manila Lumber Com. Co.
Robert Dollar Co.
Export and Import Lumber Co.
Jardine, Matheson & Co.
Port Banga Lumber Co.

**MACHINERY MERCHANTS**
Anderson, Meyer & Co.
Arnhold Karberg & Co.
Shanghai Machine Co.
Fearon, Daniel & Co.
Frank L. Strong
Stuart S. Harvey
Siemssen & Co.
Schuchardt & Schutte.

**MARINE ENGINES**
Fairbanks Morse & Co.
Truscott Boat Mfg. Co.
Grand Rapids Gas, Engine & Yacht Co.

**MILL MACHINERY**
Rose, Downs & Thompson Ltd.

**MINING MACHINERY**
Atlantic, Gulf & Pacific Co.
Germann & Co., Ltd.
Melchers & Co.
Shewan, Tomes & Co.
Siemssen & Co

**MINING COMPANIES**
Chinese Engineering & Mining Co.
South Manchuria Railway Co.
Mitsui Bussan Kaisha

**MOTORS**
Grand Rapids Gas. Eng. & Yacht Co.
The Gray Motor Co.
The Ferro Machine & Foundry Co.

**MOTOR LAUNCHES**
Earnshaw, M. & Co.
Gas Engine & Power Co. and Charles L. Seabury & Co. (Consolidated)
Fairbanks, Morse & Co.
Michigan Steel Boat Co.

**OFFICE FURNITURE**
Cadwallader-Gibson Lumber Co.

**PAINTS OILS AND VARNISH**
F. A. Vander Loo & Co.
Lambert-Springer Co.
Shanghai Electric & Asbestos Co., Ltd.
Adam Cook's Sons

**PULLEYS (STEEL)**
Schuchardt & Schütte

**PUMPS**
Shewan, Tomes & Co.
Jardine Matheson & Co.
Henry R. Worthington.
Shanghai Machine Co.
The Gardner Governor Co.

**RAILROADS**
Chinese Eastern
Shanghai-Nanking.
South Manchuria
Southern Pacific Co.

**RAILROAD SUPPLIES**
Anderson, Meyer & Co.
Arnhold Karberg & Co.
Fearon, Daniel & Co.
Jardine, Matheson & Co., Ltd.
Mitsui Bussan Kaisha
Siemssen & Co.
Westinghouse Brake Co., Ltd.
Shewan Tomes & Co.
Shanghai Machine Co

**REINFORCED CONCRETE CONSTRUCTION**
Trussed Concrete Steel Co.

**ROOFING PAPER**
Malthoid

**ROPE MANUFACTURERS**
Hongkong Rope Mfg. Co. Ltd.
Santa Mesa Rope Works.
Ynchausti & Co.

**SANITARY ENGINEERING**
Gordon & Co.
Lambert-Springer Co.
Shanghai Waterworks Co., Ltd.

**SAW MILLS**
Export and Import Lumber Co.
Insular Lumber Co.
Jardine, Matheson & Co.
Cadwallader-Gibson Lumber Co.
Port Banga Lumber Co.

**SERUM**
Bureau of Science

**SHIP-CHANDLERY**
Ynchausti & Co.

**SHIPPING AGENTS**
Castle Bros.-Wolf & Sons
Cia. General de Tabacos
Shewan, Tomes & Co.
Stevenson & Co., Ltd.
Warner, Barnes & Co., Ltd.

**SHIPBUILDING AND REPAIRS**
Tsingtauer Werft
Hongkong & Whampoa Dock Co., Ltd.
The Kawasaki Dockyard Co. Ltd.
Kiangnan Dock and Engineering Co., Ltd.
Mitsu Bishi Dock and Engineering Works
New Engineering and Shipbuilding Works, Ltd.
Shanghai Dock and Engineering Co., Ltd.
The Taikoo Dockyard and Engineering Company of Hongkong, Limited
Earnshaw, M. & Co.
Vulcan Iron Works, Ltd.

**STEAMSHIP COMPANIES**
American Asiatic S. S. Co.
China and Manila S. S. Co., Ltd.
China Merchants Steam Nav. Co.
Cia. General de Tabacos
Nippon Yusen Kaisha
Occidental and Oriental S. S. Co.
Pacific Mail S. S. Co.
Toyo Kisen Kaisha S. S. Co.
Transatlantica S. S. Co.
Ynchausti & Co.

**STEEL MANUFACTURERS**
United States Steel Products Export Co.
Zimmerman Steel Co.

**STEEL WORKS**
Bohler Bros. & Co.
The Han-Yeh-Ping Iron and Coal Co. Ltd.
Hanyang Iron & Steel Works.

**STRUCTURAL STEEL**
Bohler Bros. & Co.
A. Gulf & Pacific Co.

**SUGAR MACHINERY**
Honolulu Iron Works.

**TANKS**
Atlantic, Gulf & Pacific Co.
Pacific Tank and Pipe Co.
Shanghai Dock & Engineering Co., Ltd.

**TELEPHONES**
The Western Electric Co.

**TILES AND BRICKS**
C. Fressel & Co.
Green Island Cement Co., Ltd.
Chinese Eng. Mining Co.

**TOBACCO DEALERS**
British American Tobacco Co., Ltd
Cia. General de Tabacos
Olsen & Co., Walter E.

**TOOLS**
Lodge & Shipley Machine Tool Co.
Shanghai Machine Co.
Lambert-Springer Co.

**TYPEWRITERS**
The Fox Typewriter
Remington Typewriter Co.

**WINDMILLS**
Fairbanks, Morse & Co.
Defiance Machine Works.



**J. J. CHOLLOT**

INGENIEUR DES PONTS ET CHAUSSEES

CIVIL ENGINEER, SURVEYOR AND ARCHITECT

53 QUAI DU YANG-KING-PANG, SHANGHAI

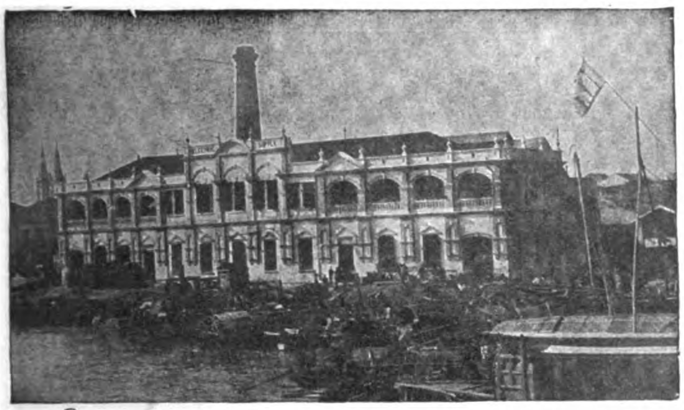
**A. J. MORSE & SON, INC.**
221 High St., Boston, Mass., U. S. A.
ESTABLISHED 1837

**DIVING APPARATUS**
Special Apparatus built to order

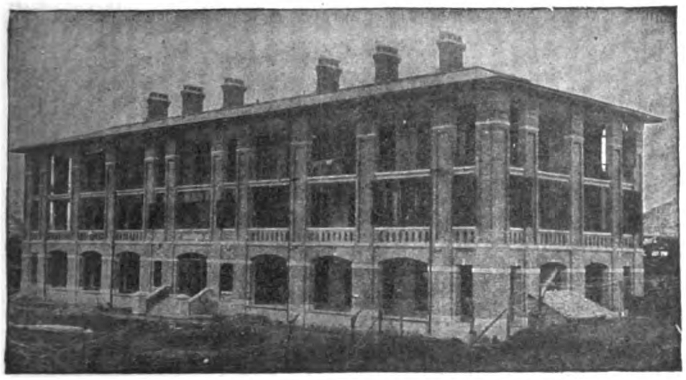
FRANK L. STRONG, Agent -:- 24 Calle Echague, Manila, P. I.

# KAHN SYSTEM

## OF REINFORCED CONCRETE



ELECTRIC SUPPLY BUILDING, CANTON, CHINA. PURNELL & PAGET, ARCHITECTS AND ENGINEERS. BUILT KAHN SYSTEM OF REINFORCED CONCRETE.



EAST HALL, CANTON CHRISTIAN COLLEGE, CANTON, CHINA. STOUGHTON & STOUGHTON, ARCHITECTS, BUILT KAHN SYSTEM OF REINFORCED CONCRETE.

The modern way of building—Fireproof and Enduring—Costs nothing for maintenance and lasts forever.

Over 2500 *Kahn System* structures in all parts of the world—including Factories, Warehouses, Stores, Office Buildings, Hotels, Public Buildings, Bridges, Viaducts, Tunnels, Reservoirs, etc.—Over 50 important buildings for the United States Government.

Experts agree that reinforced concrete is the best building material for resisting earthquakes.

*Kahn System* controls exclusively:

**KAHN TRUSSED BARS**—for reinforcing concrete beams, girders and floors.

**RIB METAL**—for reinforcing slabs, walls, sewers and conduits.

**HY-RIB**—A self-centering reinforcement for floors and roofs. A unit of lath and studs for walls and partitions.

**RIB-LATH**—The best steel lath for plastering and stucco work.

**"TRUS-CON" CHEMICAL PRODUCTS**—for finishing and water-proofing concrete.

Our Engineering Department will be glad to assist you with designs and estimates.

Separate catalogues showing structures of every kind, giving detailed methods of design and describing our various *Kahn System* products.

## Trussed Concrete Steel Company

**HEAD OFFICE DETROIT, MICH., U. S. A.**

***Eastern Agencies:***

*PHILIPPINE ISLANDS*—California-Manila Lumber Commercial Co. Room 10, Lack & Davis Bldg., Manila, P. I.

*CHINA*—Arnhold, Karberg & Co., Hongkong, Canton, Newchwang, Tsingtau, Shanghai, Tientsin.

*JAPAN*—American Trading Co., Yokohama and Kobe.

*HAWAIIAN ISLANDS*—Honolulu Iron Works Co., Honolulu, T. H.

*The Development of the*

# Remington

*is the History of the Writing Machine*

**10 AND 11 NEW MODELS NOW READY**

**Model 10, with Column Selector**
**Model 11, with Built-in Tabulator**

## Remington Typewriter Company

(INCORPORATED)

**New York and Everywhere**

McAlister & Co. Ltd., Singapore.
E. C. McCullough & Co., Manila.
Mustard & Co., Shanghai.
E. H. Tuska, Kobe and Yokohama.

# THE FOX VISIBLE TYPE-WRITER

The STANDARD TYPEWRITER of the WORLD

**THE ONLY VISIBLE TYPEWRITER** having the strength, solidity, and durability of the best blind machines.

The **FOX** is the Typewriter that compelled every other typewriter manufacturer to get out a visible model—or go out of business.

The **FOX** has every improvement and attachment of the highest grade typewriter.

It combines "The good of the old with the best of the new."

**AGENTS WANTED**

We offer the Standard Typewriter, Exclusive Territory, very liberal conditions, and every possible assistance to our representatives.

Write for free illustrated catalog and circulars

**FOX TYPEWRITER CO.** 970-990 FRONT STREET GRAND RAPIDS, MICH., U.S.A.

FEARON, DANIEL & CO., Shanghai, Agents for China

CABLE ADDRESS: "PICKETT"
CODES: WESTERN UNION, UNIVERSAL
TELEPHONE: 1041

## HARNESS

We have the only Modern Harness Manufacturing Plant in the Far East, and have studied Oriental needs for ten years.
We make harness to fit horses of any size suited either for Driving or Draft purposes and only the best American leather is used.
We have a complete stock of the latest patterns in Smart Harness and are equipped to fill the largest order to the satisfaction of the trade.
We have made harness for the Philippine Government for the last decade.
We carry in stock the best makes of English and American riding saddles.
We are sole agents for "Eglentine" Metal Bits, Stirrups, Spurs, etc.

*Far Eastern Dealers Should Write for Our Catalogue and Wholesale Prices*

## PICKETT HARNESS CO.

MANILA, P. I.

## DREDGE "AMERICA"

FOR SALE

J. G. WHITE & CO., INC.

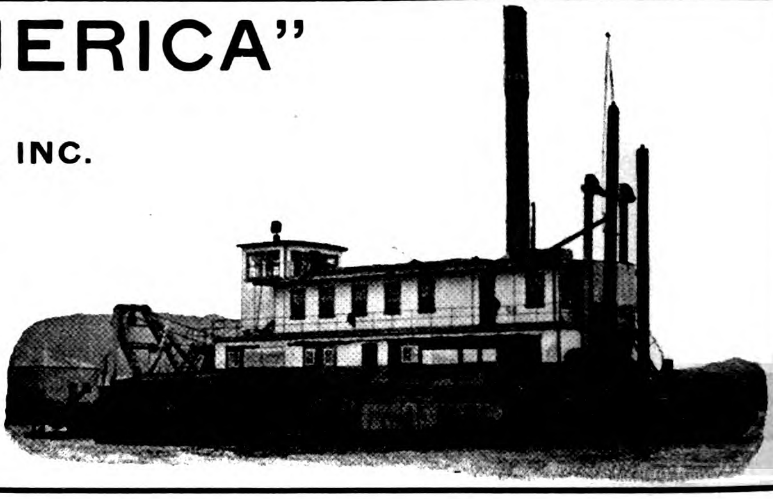
MANILA, P. I.

16 inch Hydraulic Dredge, Capacity, 7500 gals. per Minute.

For sale at one half cost account closing out plant.

Perfect condition. Has been in service less than two years.

Ready for work now, with full equipment pontoons, pipe, spare parts.

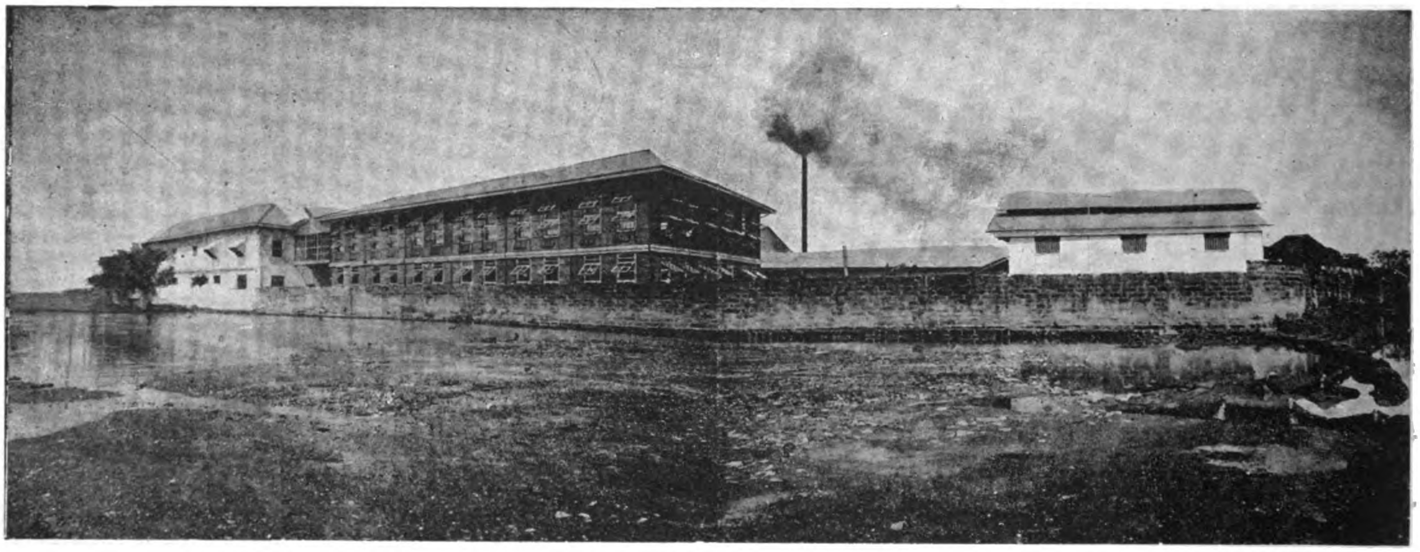


Cable Address: ALHAMBRA

## ALHAMBRA

P. O Box 301
Telephone 527

Cigar and Cigarette Factory, Manila, P. I.



Most perfect sanitary installations and absolute cleanliness throughout the Factory in every department.

**View of the Factory from the Riverside.**

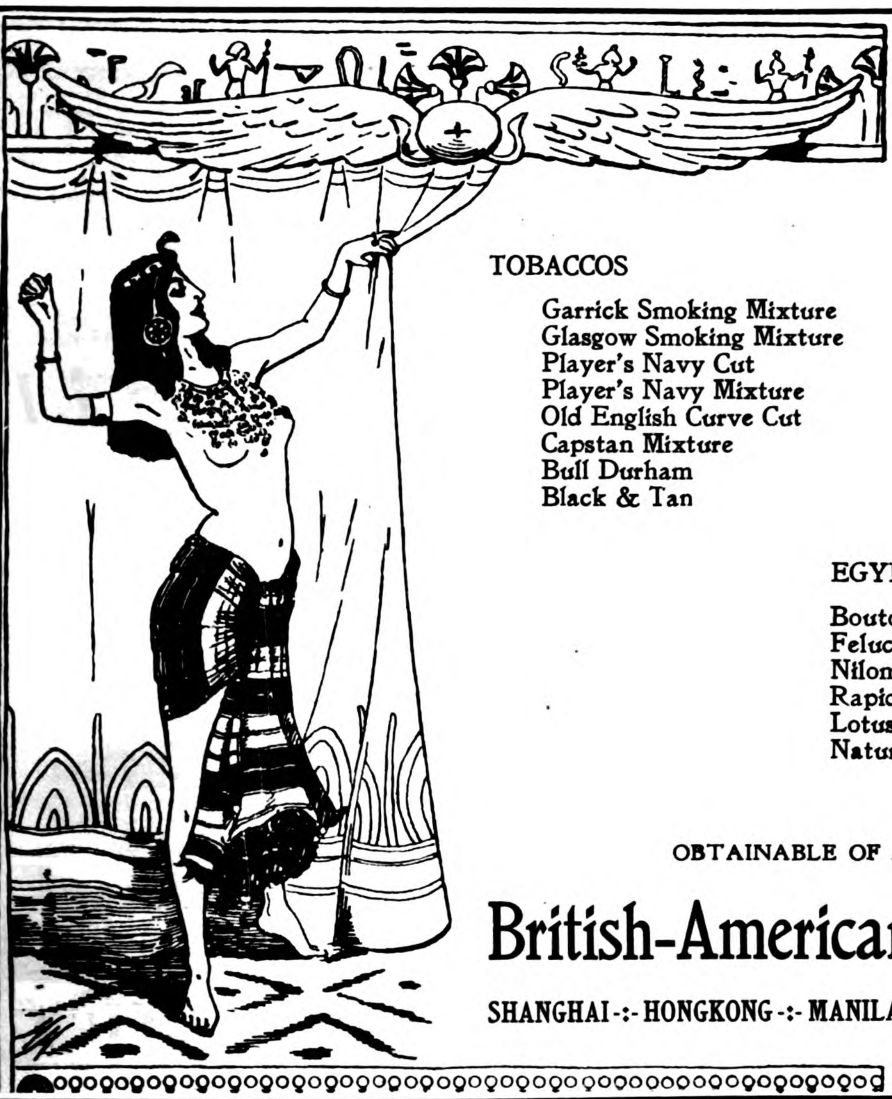
Well ventilated, airy working rooms. Everything under European expert supervision.

A few leaders:
Divinos, Regalia, Alha., Excelentes, Perfectos, Especiales, High Life, Incomparables, Republica, Imperiales, Etc., Etc.

Why the Best:
We use nothing but finest selected Isabela leaf.
We maintain the quality of each grade by strict supervision.
We combine quality, grade and price so as to give the best return for money.

Catalogs, Price Lists and Samples Furnished on application.

KUENZLE & STREIFF, PROPS.



THE

*World's Best Products*

TOBACCOS

Garrick Smoking Mixture
Glasgow Smoking Mixture
Player's Navy Cut
Player's Navy Mixture
Old English Curve Cut
Capstan Mixture
Bull Durham
Black & Tan

VIRGINIAN CIGARETTES

Three Castles
Capstan Navy Cut
Sweet Caporal
Crosscut
Garrick, Gold Tipped
Garrick, Plain
Golden Honey Dew

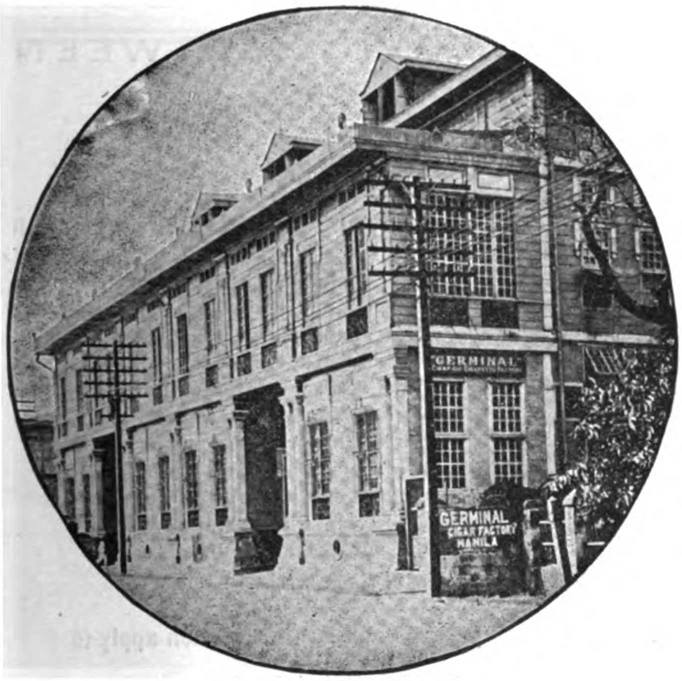
EGYPTIAN CIGARETTES

Bouton Rouge
Felucca
Nilometer
Rapido
Lotus
Natural

OBTAINABLE OF ALL DEALERS AND AT DEPOTS OF

**British-American Tobacco Company, Ltd.**

SHANGHAI -:- HONGKONG -:- MANILA -:- SINGAPORE -:- BANGKOK -:- COLOMBO -:- CHEMULPO



**"GERMINAL"**

**Cigar and Cigarette Factory**

4 Calle Marques de Comillas, Manila, P. I.

FOR A MILD CIGARETTE SMOKE TRY THE "FLOREAL"

GERMINAL MANILA TRADE MARK

GERMINAL CIGARS THE UNIVERSAL FAVORITE

This means the approval of discriminating critics; and shows an appreciation of the delicious richness of the choicest tobacco leaf, the exquisite aroma of an original blend, the finished touch throughout of an expert's hand - - - - - - - - -

**"FLOREAL" Cigarettes**

"floreal" TRADE MARK

Telegraphic Address: "TABACALERA"

Head Office BARCELONA

# Compania General de Tabacos de Filipinas

**Established in 1882.** **Capital: £ 3,000,000**

Shipping Department, 63 Escolta.

—

Manila General Office, Calzada Marques de Comillas.

—

Retail Store, 63 Escolta.

BRANCHES AND AGENCIES

—

In the principal cities of the world and towns of the Philippines

—

Proprietors of the celebrated factories

## "La Flor de la Isabela"

High grade cigars manufactured with the most selected leaf grown in the estates of the Company.

SPECIAL BRANDS:

Pig's tails, Vegueros Especiales, Regalia A. Lopez, Regalia G. Pereire, Favoritos A. Lopez, Favoritos A. Correa, Perfectos Especiales, Exquisitos, Reina Victoria, etc.

**Excellent common brands.**

## "La Clementina"

Alcohol Manufactures—Gin—Distilled Spirits

**GENERAL IMPORTERS AND EXPORTERS**

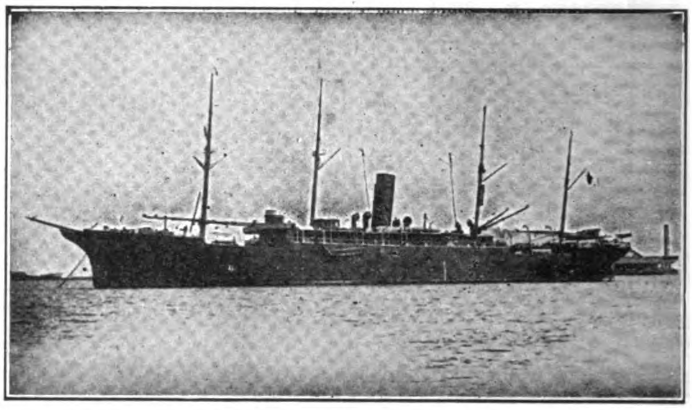
## INTERISLAND STEAMERS

Under Government Contract and Inspection.
Electric Light. First Class Accommodation

**FAR EASTERN BRANCH AGENCIES:**

| | |
|---|---|
| YOKOHAMA............ | 240 Settlement. |
| SHANGHAI............ | J. DELBOURGO, 29 Rue du Consulat. |
| HONGKONG ............ | A. R. MARTY, 2 Pedder-st. |

# *Spanish Royal Mail*



S. S. ANTONIO LOPEZ

# C.ia TRANSATLANTICA

## Late Lopez & Co.

Under Contract with R. C. M. Government

DIRECT SERVICE BETWEEN

Manila, Singapore, Barcelona and Liverpool. Calling at Colombo, Port Said, Genoa, Cadiz, Lisbon, Vigo.

**Regular passenger and freight service between**

Manila, Singapore, Colombo, Suez, Port Said, Genoa, Barcelona, Valencia, Cadiz, Lisbon, Vigo, Coruna and Liverpool. Regular monthly service between Barcelona, Cadiz, New York, Cuba and Mexico. Through tickets from Manila to New York with change of steamer at Barcelona or Cadiz. Through bill of lading to all European ports and to Atlantic Coast Ports of U. S. A. Cargo for Naples transhipped at Genoa and for London and Hamburg at Liverpool : : : : : : : : : :

**For freight and passage and full information apply to**

AGENT DE LA

## COMPANIA TRANSATLANTICA

Plaza Moraga No. 9 Manila, P. I.

# THE SEMI-TROPICAL ROUTE

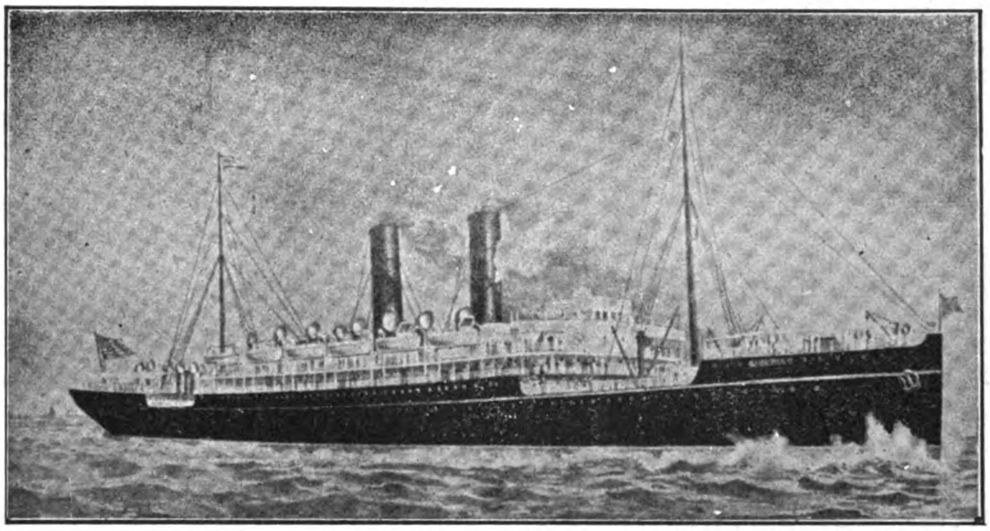
PACIFIC MAIL STEAMSHIP COMPANY

TOYO KISEN KAISHA

DIRECT SERVICE BETWEEN SAN FRANCISCO AND THE FAR EAST

SAN FRANCISCO
HONOLULU
YOKOHAMA
KOBE
NAGASAKI
SHANGHAI
HONGKONG
MANILA

A. M. GARLAND
FREIGHT TRAFFIC MANAGER
A. G. D. KERRELL
GENERAL PASSENGER AGENT



MANCHURIA
MONGOLIA
KOREA
SIBERIA
CHINA
ASIA
TENYO MARU
CHIYO MARU
NIPPON MARU

GENERAL OFFICE,
"FLOOD BUILDING"
SAN FRANCISCO, CAL.

SIBERIA—Transpacific Record 10 days 10 hrs. (Yokohama-San Francisco)

FEATURES OF THE LINE:—Southern route; passengers enjoy outdoors throughout; deck bathing. The call at Honolulu, Oahu, the most fertile and beautiful Island of the Pacific. The only line to San Francisco, the greatest port of the Pacific.

Castle Bros.-Wolf & Sons, Agents, Manila, P. I.

# SAN FRANCISCO TO THE EAST

*The Overland Limited*

**Electric-lighted parlor sleeping cars, combination buffet-library and drawing-room observation cars. Diner all the way**

*The Last Word in Luxurious Travel*

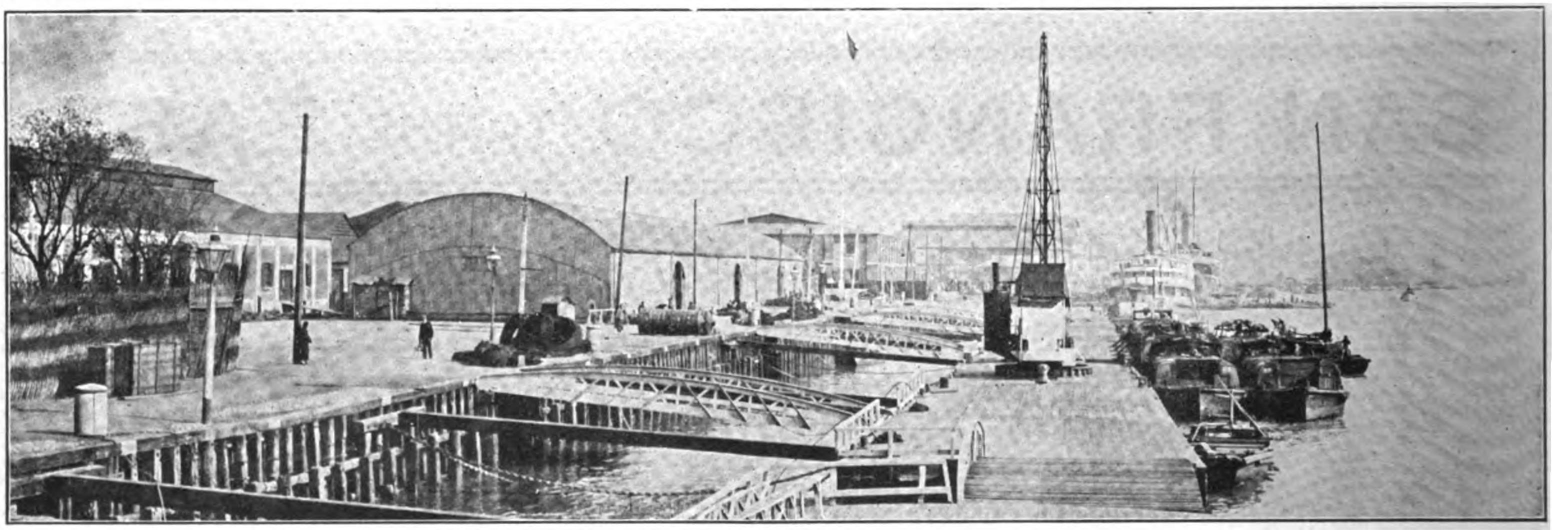
**Over the scenic route and straight across the Great Salt Lake by way of Lucin-Ogden cut-off, a wonderful triumph of modern engineering**

# SOUTHERN PACIFIC

## Operating Coast and River Steamships

### Between Shanghai and all the Principal Ports of China

| | | | |
|---|---|---|---|
| SHANGHAI | AMOY | NANKING | ICHANG |
| CHEFOO | SWATOW | WUHU | CHANGSHA |
| TIENTSIN | HONGKONG | KIUKIANG | NANCHANG |
| NEWCHWANG | CANTON | HANKOW | HANGCHOW |
| FOOCHOW | CHINKIANG | SHASI | SOOCHOW, ETC. |



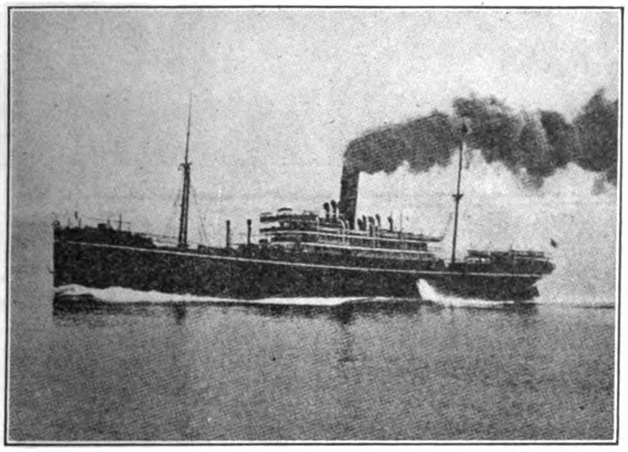
VIEW OF LOWER HONGKEW WHARVES

## Operating the Most Extensive and Economical System of Wharves and Warehouses in Shanghai. The Lower Hongkew, Central, Eastern, and Yangkadoo Wharves Possess Every Facility for Quick and Economical Dispatch.

**GOODS FROM ANY PART OF THE WORLD MAY BE CONSIGNED TO OUR BONDED WAREHOUSES, AND WILL BE DISCHARGED AND STORED AT LOWEST RATES, SUBJECT TO DELIVERY AT ANY TIME TO AUTHORIZED PARTIES**

| | |
|---|---|
| **H. E. TAOTAI M. Y. CHUNG** | **THOMAS H. HARRIS** |
| MANAGING DIRECTOR | GENERAL MANAGER |
| NO. — BUND | LOWER HONGKEW WHARVES |

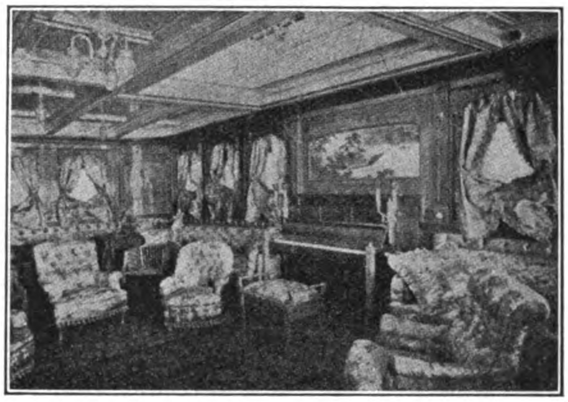
# NIPPON YUSEN KAISHA



(JAPAN MAIL S. S. CO.)

Under Mail Contract with the Imp. Japanese Government

EUROPEAN LINE ................FORTNIGHTLY
AMERICAN LINE ................FORWEEKLY (FROM KOBE FORTNIGHTLY)
AUSTRALIAN LINE................FORTNIGHTLY
YOKOHAMA SHANGHAI LINE.....TWICE A WEEK
SEVERAL LINES BETWEEN JAPAN TO NORTH CHINA, COREA, VLADIVOSTOK, ETC.



SOCIAL HALL S.S. "NIKKO MARU"

For Further Particulars concerning Freight and Passage, apply

## NIPPON YUSEN KAISHA

SHANGHAI, HONGKONG, YOKOHAMA, KOBE, MOJI, NAGASAKI AND

## WARNER BARNES & CO.

Agents, Manila

# THE ROBERT DOLLAR CO.

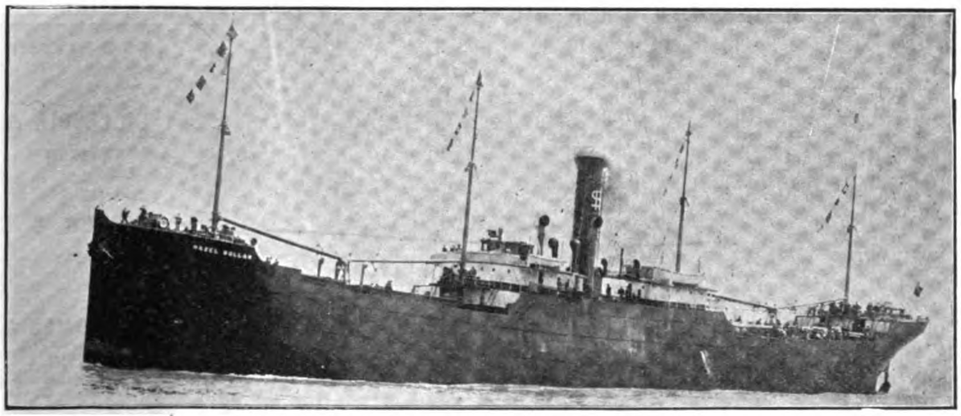
HEAD OFFICE:
60 California St, San Francisco, Cal.

CHINA OFFICE:
13 Nanking Road, Shanghai

## Mills at Tacoma, Wash., and Portland, Ore., U. S. A.

STEAMERS

BESSIE DOLLAR - - - - - - - HAZEL DOLLAR
STANLEY DOLLAR - - - - - - - M. S. DOLLAR
MELVILLE DOLLAR - - - - - HAROLD DOLLAR
GRACE DOLLAR



S. S. "HAZEL DOLLAR"

MANUFACTURERS OF OREGON PINE, CALIFORNIA RED WOOD AND CREOSOTED SLEEPERS

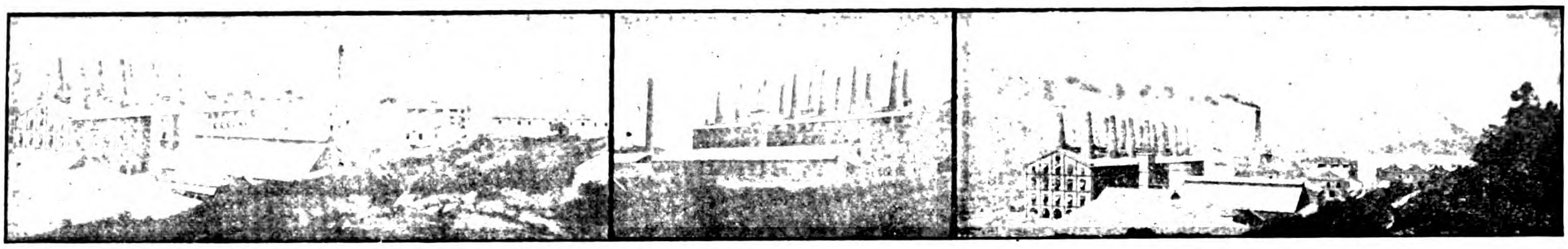
OUR MILLS ARE ESPECIALLY EQUIPPED FOR SUPPLYING RAILWAY TIMBER ORDERS, AND WE MAKE PROMPT DELIVERY BY OUR OWN STEAMERS

CABLE ADDRESS:

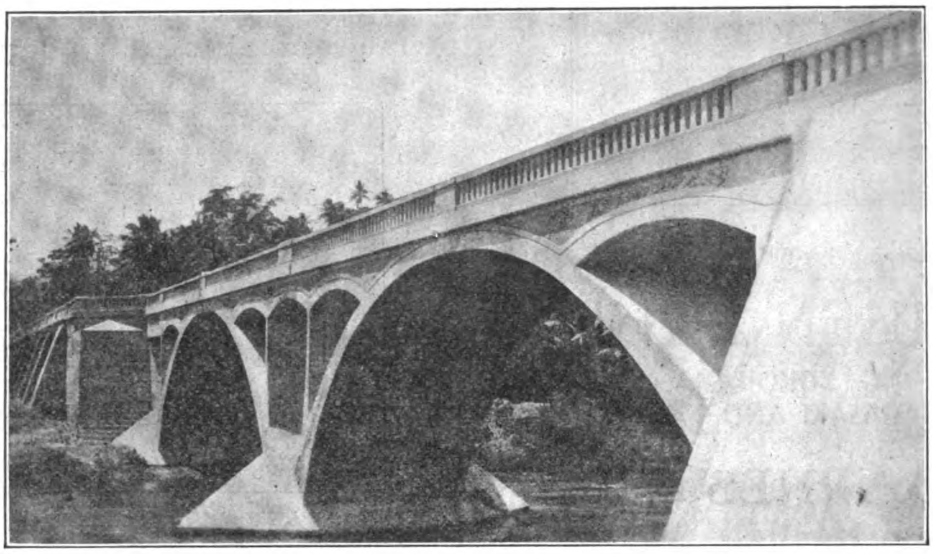
"DOLLAR"

A. B. C. 5th Ed.: Southard's Codes

# GREEN ISLAND CEMENT



WORKS OF THE GREEN ISLAND CEMENT COMPANY, LIMITED, HONGKONG



PARABOLIC ARCH BRIDGE, ALBAY—2500 BARRELS OF GREEN ISLAND CEMENT USED IN ITS CONSTRUCTION

Glazed
Stoneware

—

House
Drain
and
Sewer Pipes
and
Fittings
In Stock

Glazed
Paving
Bricks
and
Tiles

—

Fire
Bricks
and
Fire
Clay

**Agents:**

WM. H. ANDERSON & CO.
MANILA, P. I.

SHEWAN, TOMES & CO.
SHANGHAI

SHEWAN, TOMES & CO.
JAPAN

TURNER, MORRISON & CO
CALCUTTA

**Agents:**

GEO. GILLESPIE & CO.
RANGOON

E. SPINNER & CO.
BOMBAY

SHEWAN, TOMES & CO.
TIENTSIN

McALISTER & CO., LTD.
SINGAPORE, PENANG

SANTA CRUZ BRIDGE

# Wm. H. ANDERSON & CO.

MANILA, P. I.

IMPORTERS AND EXPORTERS: COMMISSION AGENTS

AGENTS IN THE PHILIPPINES FOR

| | | | |
|---|---|---|---|
| GREEN ISLAND CEMENT COMPANY | LIBBY, McNEILL & LIBBY | DIEBOLD SAFES | GLAZED SEWER PIPE |
| HONGKONG ROPE MFG. CO. | SWIFT & COMPANY | AERMOTOR COMPANY | FIRE BRICK, FIRE CLAY |
| FARM AND ROAD WAGONS | BRUNSWICK-BALKE COLLENDER CO. | LUBRICATING OILS | RUBEROID ROOFING |

*Use Dragon Brand for Highclass Solid and Enduring Construction*

GENERAL AGENTS FOR CHINA

# *RACINE ACKERMANN & CO.*

*NO. 4 YANG-KING-PANG, SHANGHAI*

**THE CHEE HSIN CEMENT CO., L^TD.**

**TANGSHAN PORTLAND CEMENT**

In barrels of 375 lbs. (170 kg.) net

Tangshan Portland Cement manufactured of the best raw material at our new extensive works which have recently been erected and equipped with the newest and most up-to-date machinery, flint-mills, rotary-ovens, etc., etc., is of superior quality and

**EQUAL TO THE BEST EUROPEAN BRANDS**

Awarded Silver Medal at St. Louis Exposition 1904

*Shanghai Agent:*
*E. WOYAN*
*47 Quai de France*

啟新洋灰有限公司
TANGSHAN PORTLAND CEMENT
洋灰
唐山
THE CHEE HSIN CEMENT COMPANY LIMITED

In bags of 187½ lbs. (85½ kg.) net

Tangshan Portland Cement is universally used throughout North China by Railways, Engineering Works, Mining Companies, Municipalities, etc. Orders of large extent accepted for delivery at short notice.

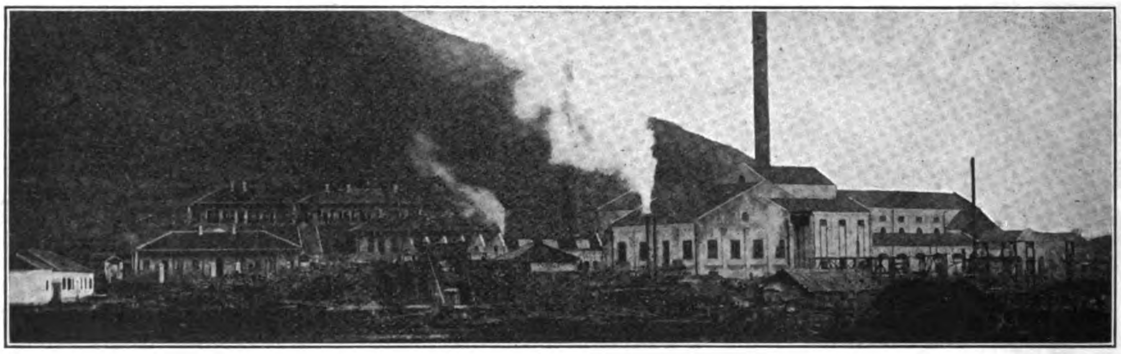
**CEMENT MOSAIC TILES**
**CEMENT ROOFING TILES**
**CEMENT PAVING TILES**
**CEMENT DRAIN PIPES**
**FIREBRICKS**
**FIRECLAY TILES**
**GROUND FIRECLAY**

For particulars and prices apply to

**THE CHEE HSIN CEMENT CO., L^TD.**

Head Offices:
TIENTSIN

*Hankow Agent:*
*CHING CHONG*



**TAYEH, HUPEH PROVINCE, CHINA**

TELEGRAPH ADDRESS:
**"SHUINEE"**

湖北水泥廠
PORTLAND CEMENT
商標
HUPEH CEMENT WORKS

SHANGHAI OFFICES:
**221 NINGPO ROAD**
**TELEPHONE, 3431**

HANKOW OFFICES:
**CHINESE BUND, CHONG PING LANE**

ONE OF FOUR GRAB DREDGERS SUPPLIED TO THE GREAT WESTERN RAILWAY CO.

# PRIESTMAN BROTHERS, LIMITED

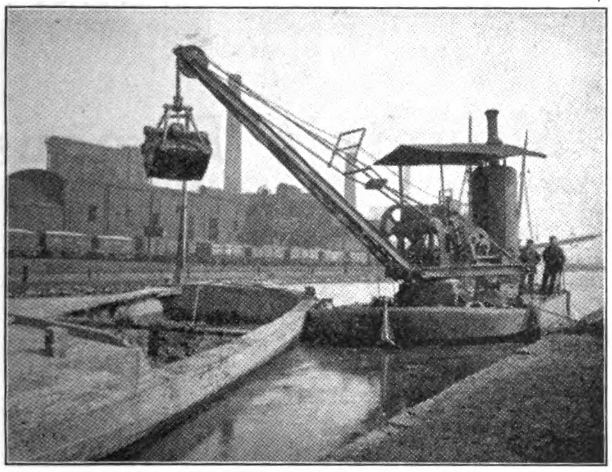
HULL AND
3 LAURENCE POUNTNEY HILL,
CANNON ST., LONDON, E. C.

DREDGERS,
EXCAVATORS
AND ELEVATORS

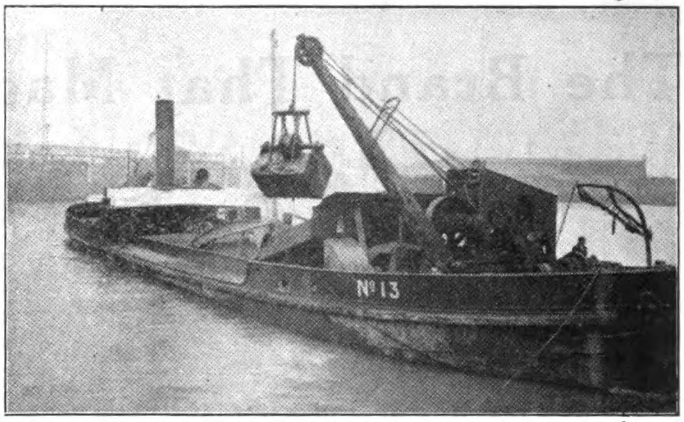
150 DIFFERENT TYPES AND SIZES OF GRABS TO SELECT FROM 1 TO 150 CUBIC FEET CAPACITY

PRICES AND FULL PARTICULARS ON APPLICATION TO

ONE OF A LARGE NUMBER OF GRABS TAKEN BY MESSRS. S. PEARSON & SON, LTD., CONTRACTORS



ONE OF A NUMBER OF GRAB DREDGERS SUPPLIED TO THE LONDON & NORTH WESTERN RAILWAY COMPANY



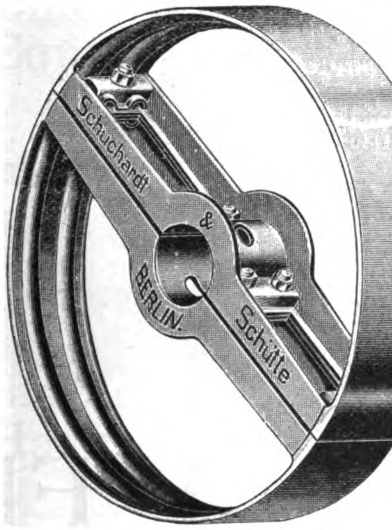

ONE OF FIFTEEN GRAB DREDGERS SUPPLIED TO THE LIVERPOOL DOCKS BOARD

## DICKESON, JONES & CO., AGENTS FOR CHINA



## SCHUCHARDT & SCHUTTE

BERLIN LONDON NEW YORK




**ABSOLUTELY RIGID**

**NO BREAKAGE NO WARPING.**

**FULL ASSORTMENT OF SIZES CARRIED IN STOCK BY:**

TAKATA & CO., TOKYO
SHANGHAI MACHINE CO., SHANGHAI AND HANKOW.
GERMANN & CO., MANILA.
HOWARTH ERSKINE & CO., LTD., BANGKOK.
MAINTZ & CO., BATAVIA AND SOERABAYA.



**The United States offers the greatest opportunity** in the world to makers of industrial or denatured alcohol. Those who start this production now are bound to come to great rewards. The field is practically untouched and by starting now, you can have things very much your own way.

A general consideration of the NEW INDUSTRY, including a full description of the distilling apparatus used and the principle involved, also methods of chemical control and disposal of the products, first edition illustrated by seventy-four engravings, 156 pages. This book is cloth bound, it will be sent to any address post paid on receipt of $3.20. Every farm, ranch and merchant needs a 5 gallon Tax-Free denatured alcohol distillery apparatus. Agents price $98.50, a 100 gallon distilling apparatus cost $700.00. We are desirous to establish Far Eastern Agencies and have very good propositions to offer.

**THE UTILIZATION OF WOOD WASTE BY DISTILLATION**

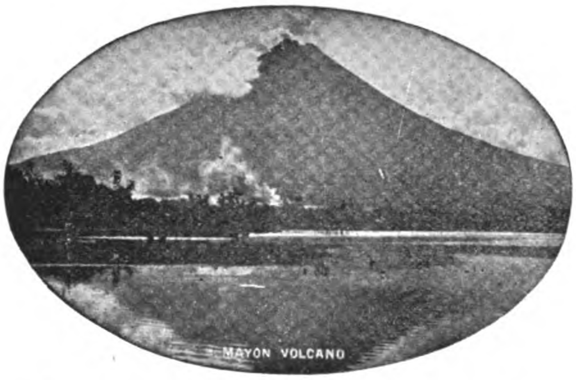
## Wood Waste Distilleries Co.

213-217 St. Clair Ave., N. W. CLEVELAND, OHIO, U. S. A.

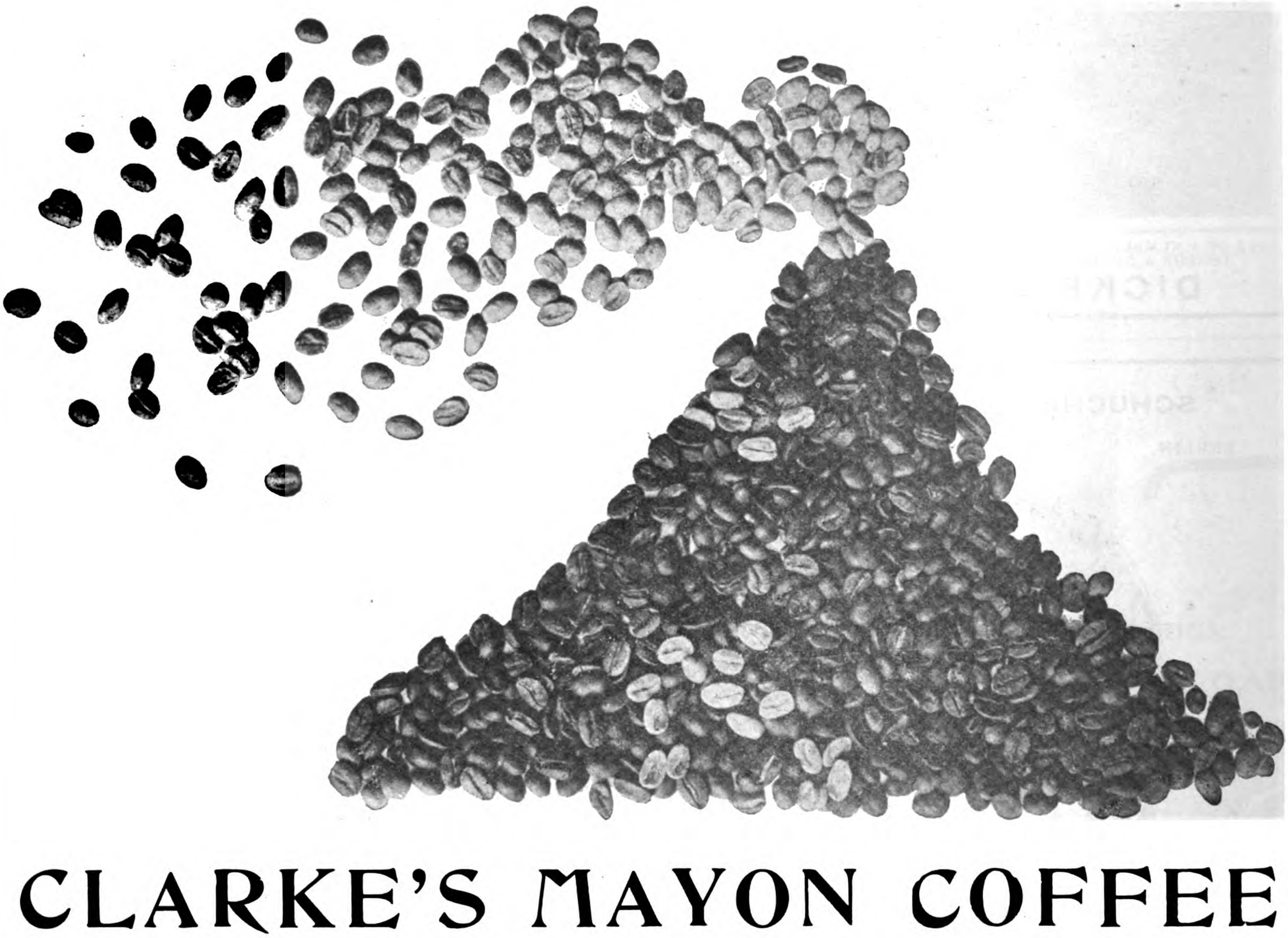
# CLARKE'S

MAYON COFFEE

MANILA PHILIPPINE IS.




The Brand That Made The Mountain Famous



CLARKE'S MAYON COFFEE

EQUALS "SATISFIED CUSTOMERS"

Once Tried Always Used—Never Refused

# Frank L. Strong

Cable Address: STRONG

Telephone No. 360 P. O. Box 772

# Stuart S. Harvey

Cable Address: HARVISTON

Telephone No. 360 P. O. Box 277

Offices: 34-40 Calle Echague, Manila, P. I.

## EXCLUSIVE AGENTS

FOR LEADING

## AMERICAN AND EUROPEAN MANUFACTURERS

### LEADING SPECIALTIES

Electrical Machinery and Supplies

Saw Mill and Planing Mill Machinery

Locomotives and Railway Equipments

Air Compressors and Pneumatic Tools

Agricultural and Road Making Machinery

Mechanics' Tools, Builders' Hardware, etc., etc.

Steam Engines and Boilers

Kerosene and Gasoline Engines

Ice and Refrigerating Machines

Sugar, Rice and Fibre Machinery

Mining and Hydraulic Machinery

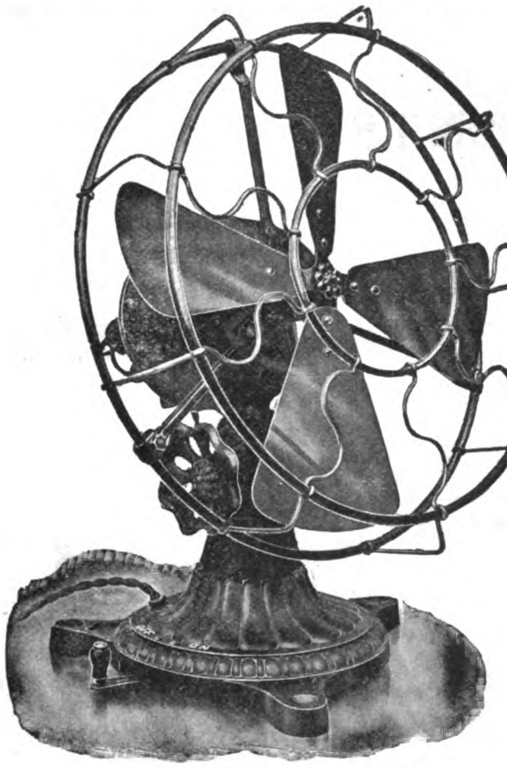
Complete Machine Shop Equipment

SPECIFICATIONS DRAWN ESTIMATES GIVEN

# Shanghai Electric and Asbestos Co., Ltd.

**Removed to new premises on Nanking Road—between the Bund and Szechuen Road, Shanghai**

## Electrical Engineers, Government Contractors, and Agents.



SOLE AGENTS FOR

*Bell's Asbestos Eastern Agency, Ltd.*

*Packings and Special Lubricants*

*Suter Hartmann and Rahtjen's "Red Hand"*

*Anti-Corrosive and Anti-Fouling Paints*

*"Express" Marine Oils*

*Easton Lift Co., Electric Lifts*

*Bowers Rubber Works, San Francisco, Cal.*

*Rubber Goods, Packings, Fire Hose, Mats, etc.*

**Cable Address: "OHM" SHANGHAI**
**Codes: A-1, A. B. C. (5th Edition), Engineering and Western Union**

The oldest established firm in our line in China. We carry the largest and most varied stocks in the Far East. Call and see our showroom

CLASSIFIED HEADINGS

**ELECTRICAL ENGINEERS, ELECTRICAL MACHINERY IMPORTERS, SUNDRY MACHINERY IMPORTERS, PAINT MERCHANTS, OIL MERCHANTS, RUBBER MERCHANTS, FIRE HOSE IMPORTERS, ASBESTOS IMPORTERS, PACKINGS IMPORTERS, ELEVATOR IMPORTERS, ELEVATOR INSTALLATIONS, SHIPS' COMPRADORES, MATTING IMPORTERS.** - - - - - - - - - - - - -

# ROSE, DOWNS & THOMPSON, LTD.

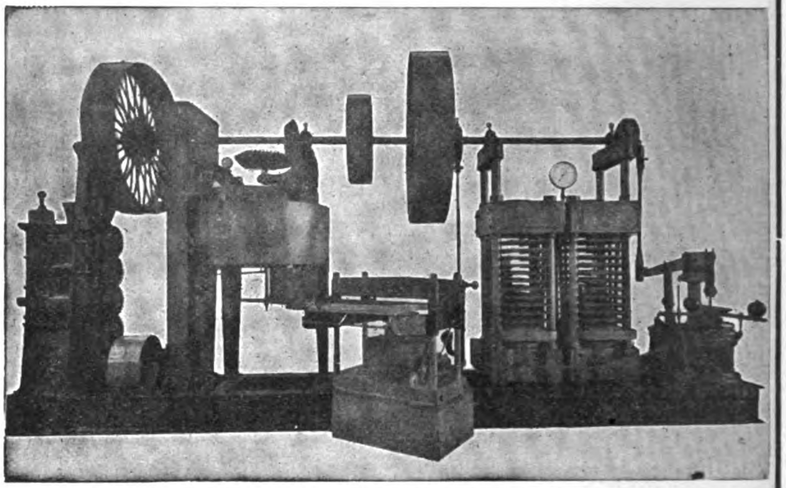
ESTABLISHED 1777

**EASTERN OFFICE: 13 NANKING ROAD, SHANGHAI**

CABLE ADDRESS: "ROSEDOWNS," SHANGHAI

HEAD OFFICE AND WORKS, HULL, ENGLAND

**CONTRACTORS TO HOME, COLONIAL AND FOREIGN GOVERNMENTS**



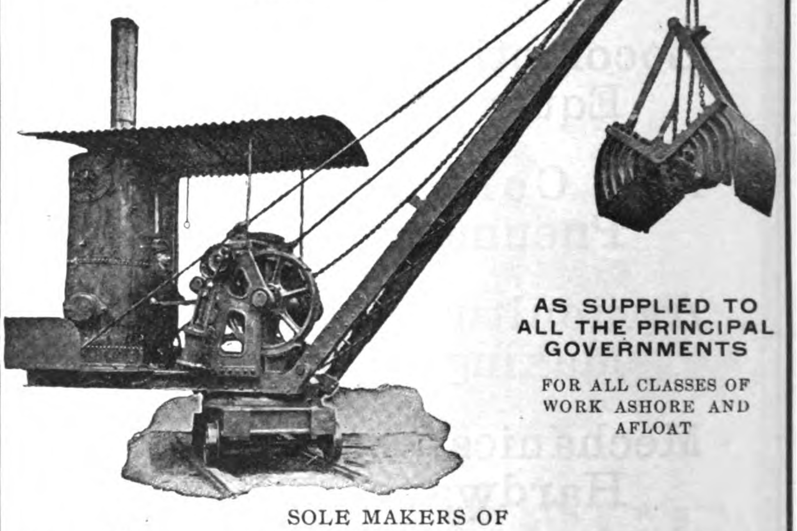
**OLDEST AND LARGEST MANUFACTURERS IN THE WORLD OF**

## OIL MILL MACHINERY

SUITABLE FOR THE TREATMENT OF EVERY VARIETY OF OIL-BEARING SEED AND NUT; ON THE MOST EFFICIENT AND MODERN PROCESSES

OVER 4,000,000 TONS OF SEEDS AND NUTS CRUSHED ANNUALLY IN MACHINERY MANUFACTURED BY US

SIMPLEST
CHEAPEST
BEST



AS SUPPLIED TO ALL THE PRINCIPAL GOVERNMENTS

FOR ALL CLASSES OF WORK ASHORE AND AFLOAT

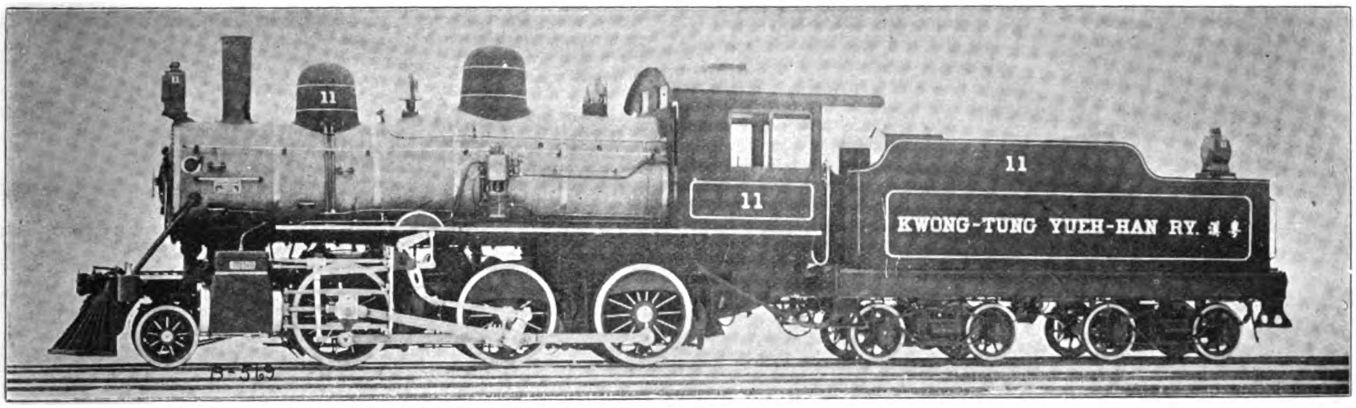
SOLE MAKERS OF

## The "Kingston" Grab Dredger and Excavator

POSSESSES IMPORTANT ADVANTAGES OVER ALL OTHER SYSTEMS

FOR DEEPENING RIVERS, DOCKS, CANALS, AND HARBOURS, EXCAVATING CLAY AND SAND, LIFTING ROCKS, DISCHARGING GRAIN, ETC., ETC.

**CATALOGUE, ESTIMATES AND FULL INFORMATION ON APPLICATION**




# MITSUI BUSSAN KAISHA

ENGINEERING DEPARTMENT

Tokyo, Hongkong, Shanghai, Tientsin, Newchwang, Canton, Hankow, Dairen, Mukden, Changchun, etc.

**Locomotives, Passenger Coaches, Freight Cars, Bridges, Rails, etc.**

**Railways equipped throughout with the most modern Standard Appliances**

RAILWAYS IN CHINA FULLY OR PARTIALLY EQUIPPED WITH MATERIALS SUPPLIED BY THE MITSUI BUSSAN KAISHA

SOUTH MANCHURIA RAILWAY; ANTUNG-MUKDEN LINE; KIANGSI RAILWAY; PEKING-HANKOW RAILWAY; KIANGSU RAILWAY; CHEKIANG RAILWAY; SWATOW-CHAOCHOWFU RAILWAY; ETC.

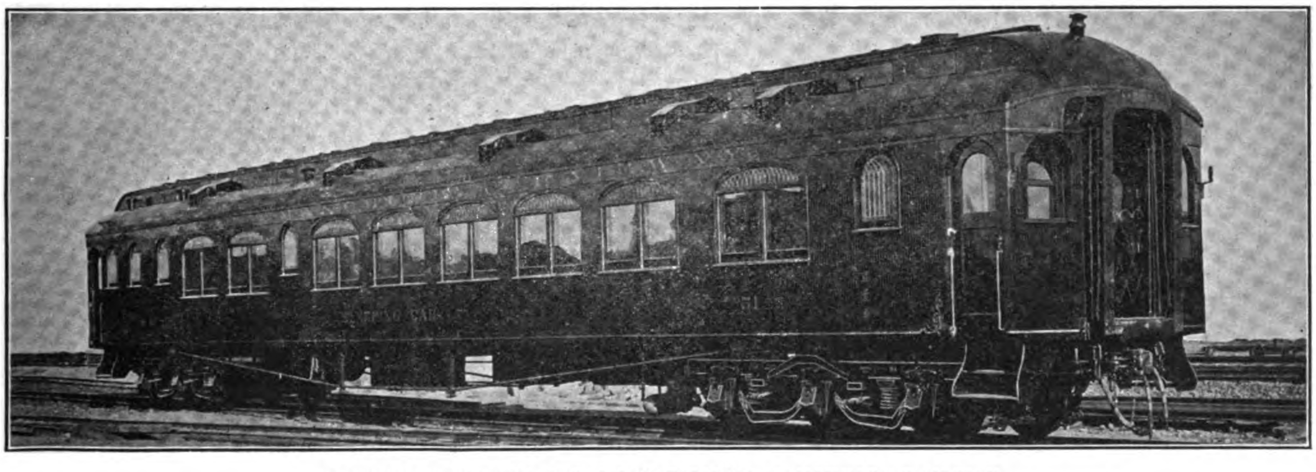
AGENTS IN JAPAN, KOREA, MANCHURIA AND CHINA FOR

**American Locomotive Co., Gould Coupler Co., The Pullman Co., Safety Car Heating & Lighting Co., Jones Laughlin Steel Co., Union Switch & Signal Co., etc.**

AGENTS FOR JAPAN AND KOREA:

The Pyle National Headlight Co.

RAILWAY MACHINE SHOPS FITTED COMPLETE WITH THE MOST APPROVED TYPES OF SPECIAL MACHINE TOOLS.



PULLMAN SLEEPING CAR ON THE SOUTH MANCHURIA RAILWAY

Supplied by the MITSUI BUSSAN KAISHA

KOBE
CANTON
HONGKONG
SHANGHAI
TIENTSIN
NEW YORK

# SHEWAN, TOMES & Co

LONDON
OFFICE
27
LEADENHALL
STREET
LONDON, E.C.

**IMPORT AND EXPORT MERCHANDISE, COMMISSION AND SHIPPING AGENTS**

## London—Hongkong—Canton—Shanghai—Tientsin—Kobe—New York

**Telegraphic Address:**
**"KEECHONG," All Branches.**

**Hongkong Post Office Box: No. 131B**
**Shanghai Post Office Box: No. 84**

## General Managers of

The China Light & Power Co., Ltd., Hongkong
The Green Island Cement Co., Ltd., Hongkong
The Hongkong Rope Mfg. Co., Ltd., Hongkong
The China Provident Loan & Mortgage Co., Ltd., Hongkong
The Whangpoo Wharf and Godown Co., Ltd., Shanghai
The China and Manila Steamship Co., Ltd., Hongkong
The Canton Land Co., Ltd.
Equitable Life Assurance Society of the United States, Hongkong

## Agents for

American Asiatic Steamship Co.
American Manchuria Line, Hongkong
J. Marke Wood's Line of Steamers
The Yangtsze Valley Company, Ltd.
The Electric Traction Co. of Hongkong, Ltd.
The American China Development Co.
The Yangtsze Insurance Association, Ltd., Hongkong
World Marine Insurance Co., Hongkong
Reliance Marine Insurance Co., Hongkong
Union Marine Insurance Co., Ltd., Hongkong
Batavia Sea and Fire Insurance Co., Hongkong
Glen Line of Steamers, Hongkong
The British Dominions Marine Insurance Co., Ltd., Hongkong
North British & Mercantile Insurance Co., Hongkong
Law Union & Crown Insurance Co., Hongkong
Yorkshire Fire and Life Insurance Co., Hongkong
Fireman's Fund Insurance Co. (Fire only), Hongkong
Insurance Company of North America, Hongkong
The Chinese Engineering and Mining Company, Ltd., Hongkong
Shanghai Pulp and Paper Co., Ltd., Hongkong
The International Sleeping Car and Express Trains Co., Hongkong
(Trans-Siberian Railway), Hongkong
Tacoma Grain Co.
Birkmyre Bros.

# MACHINERY DEPARTMENT

## Shanghai, Telephone No. 3487

**ELECTRIC LIGHT & POWER PLANTS. RAILWAY, MINING, MILL AND INDUSTRIAL PLANTS AND EQUIPMENT; SAFETY WATER-TUBE BOILERS; STEAM TURBINES; PUMPS, GAS ENGINES, PRODUCERS, ETC. ENGINEERING AND ELECTRICAL SUPPLIES**

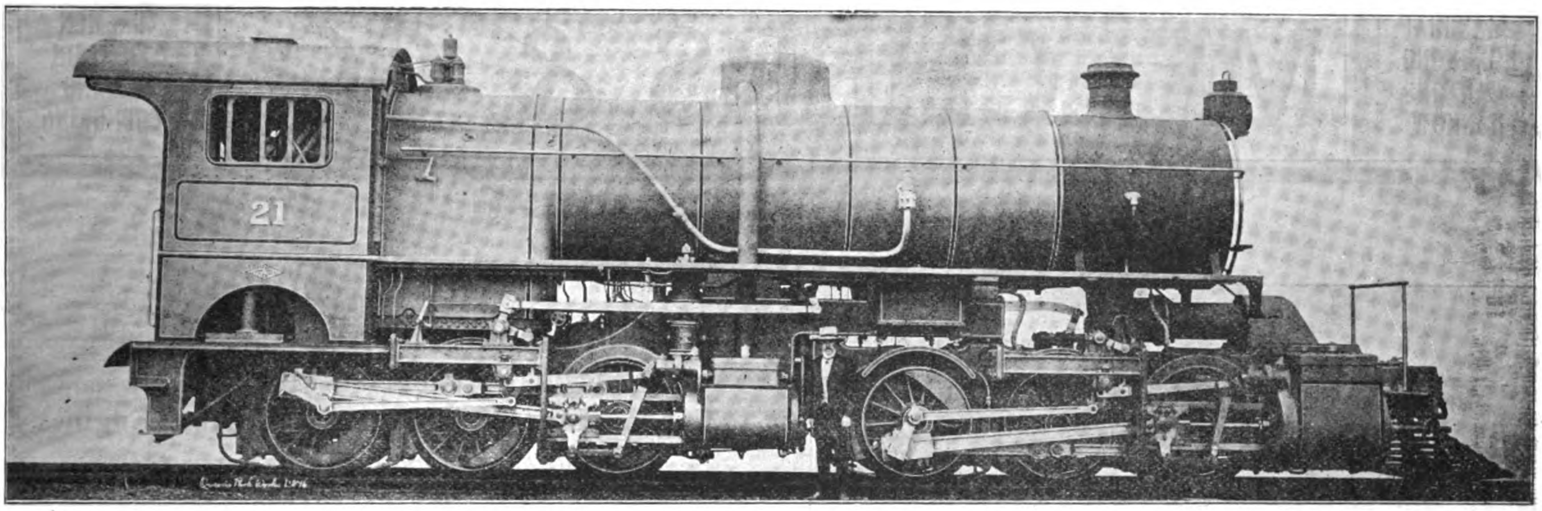
上海英商新旗昌洋行機器處廣告

本行樓子房現設江西路六號 電話三四八七號

本行經理各種機器如紡織碾米榨油磨麪造紙開礦墾荒抽水挖泥大小火輪全副引擎鍋爐及火車頭客車貨車鐵路材料並自來水一切物件其餘鋸木車鑽刨床各式大小引擎鍋爐及磨電機發動機煤氣引擎發煤氣機以及得律風電燈電氣應用一切另件等具色色俱全均係外洋著名廠家特別精造新式玲瓏堅固但各項名目繁多未便盡載倘承賜顧或蒙函詢嘗即竭誠詳細奉答價亦格外克己以廣招徠尚祈惠臨方知言之不虛謬也

**SOLE REPRESENTATIVES IN CHINA FOR**

British Insulated & Helsby Cables Ltd. (Hongkong and S. China).
British Westinghouse Electric & Manufacturing Co., Ltd.
Browett Lindley & Co., Ltd., England.
Barber Asphalt Paving Co., U. S. A.
Fraser & Chalmers Ltd., England.
J. G. Brill Co.
Lima Locomotive & Machine Co., U. S. A.
The London Phosphor, Copper & Bronze Co.
Manning, Maxwell & Moore, Inc., U. S. A.
Power Pulley Co., Ltd., England.
Power Gas Corporation Ltd., England, (except bituminous plants)
Ransomes, Sims & Jefferies, Ltd., England.
Rhodes Motors Ltd., England
Sullivan Machinery Co., U. S. A., South China.
Turner Bros. Ltd., England, North China.
Wason Manufacturing Co., U. S. A.
The Wolf Co., U. S. A.
Wolverine Motor Works, U. S. A.
Water Tube Boiler Co., Ltd., England



MALLET TYPE ENGINE FOR THE PEKING-KALGAN LINE MADE BY THE NORTH BRITISH LOCOMOTIVE CO.

# North British Locomotive Co., Ltd.

HYDE PARK WORKS
(Late NEILSON, REID & CO.)

QUEEN'S PARK WORKS
(Late DUBS & CO.)

ATLAS WORKS
(Late SHARP, STEWART & CO., Ltd.)

Head Office and Administration Building: SPRINGBURN, GLASGOW

LONDON OFFICE:—17, VICTORIA STREET, WESTMINSTER, S. W.

Telegrams: LOCO., GLASGOW

BUILDERS OF ALL KINDS OF

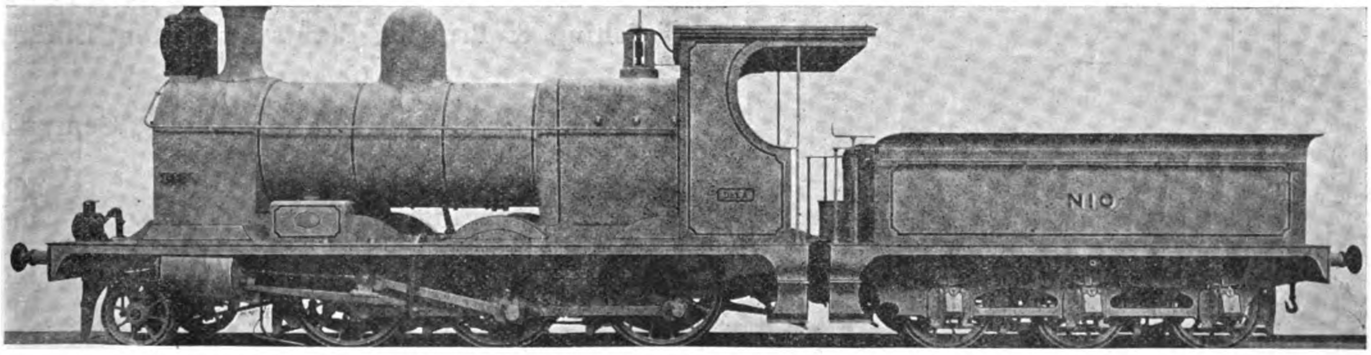
## Locomotive Engines and Tenders Suitable for any Gauge of Railway

| ANNUAL CAPACITY: | WORKSHOPS EQUIPMENT: | OUTPUT NOW EXCEEDS: |
|---|---|---|
| 700 | 8000 | 19,000 |
| MAIN LINE LOCOMOTIVES | MEN | LOCOMOTIVES |

AGENTS IN THE EAST

**China: Messrs. Jardine Matheson & Co., Ltd., Hongkong and China**

**Japan and Manchuria: Messrs. Okura & Co., Tokyo**



TYPE OF NORTH BRITISH LOCOMOTIVE SUPPLIED TO THE TIENTSIN-PUKOW—SOUTHERN SECTION

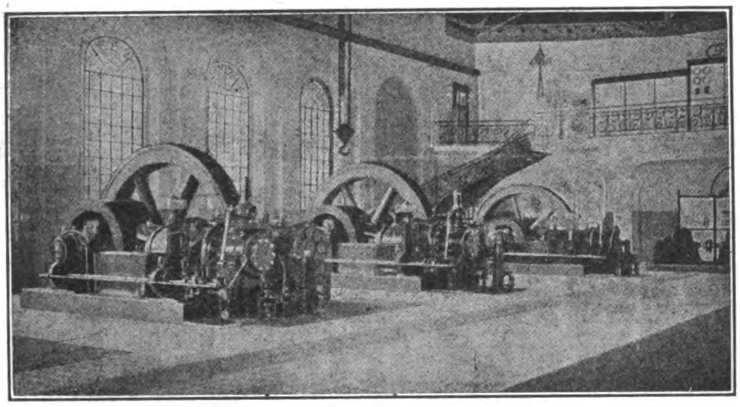
## THE LARGEST LOCOMOTIVE WORKS IN EUROPE

SHANGHAI
HONGKONG
CANTON
HANKOW

# MELCHERS & CO.

BREMEN
TIENTSIN
ICHANG
CHUNGKING

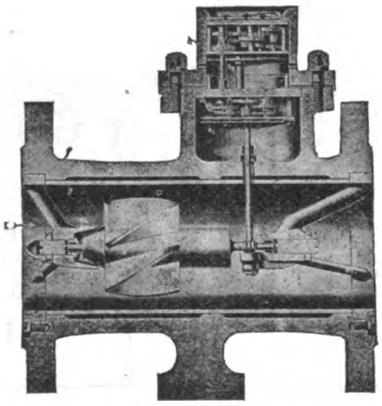
*Cable Address:* *MELCHERS.*

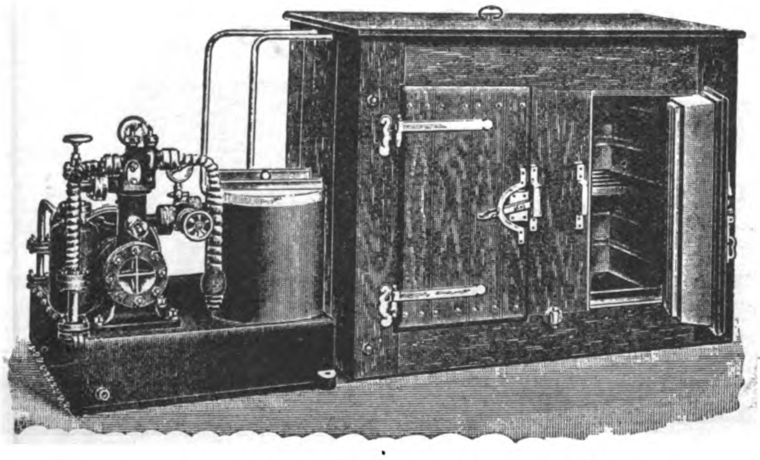


ELECTRIC POWER STATION WITH 3,400 HP. KOERTING'S GAS ENGINES
SUCTION GAS PLANTS UP TO 500 HP. FOR ALL FUELS

**Waterworks**
Designing and Construction.
Pumps—Pipes.
*Carl Francke, Bremen.*

**Watermeters.** Wet running
Dry running and Woltmann
System.
*Breblauer Metallgieperei,*
*Breslau.*





ICE-MAKING AND REFRIGERATING PLANTS

rom the smallest to the largest capacities. Small Ice-making and Refrigerating Plants for Hotels, Hospitals, Private Houses "System Ziegler." Safe—Reliable—Simple.

## *General Agents for:*

High Speed Steam Engines "Roland"
Steam Turbines System "Zoelly"
Ship machinery, as Winches, Pumps, Engines
*Norddeutsche Maschinen & Armaturen Fabrik*
*G. m. b. H. Bremen*

Diesel Motors, Gas Engines, Suction Gas Plants
Koerting's Injectors, Ejectors, Heating Plants
*Gebr. Koerting, A. G. Koertingsdorf|Hannover*

Watertube Boilers, System Garbe, Marine Boilers
*Duerr & Co., Ratingen*

Dredgers for Harbour and River Work, Barges
Steam Tugs, Gold Dredgers, Hoppers
*Werf Conrad, Haarlem*

Marine Motors "Kromhout," Motor Boats
*Gebr. Goedkoop, Amsterdam*

Slow Speed Steam Engines, Condensing Plants
*Maschinenbau Anstalt A. G. Goerlitz*

Electrical Fittings, "Bergmann" Tubes, Meters
*Bergmann Electricitaets Werke, A. G. Berlin*

Electric Cables & Wires, Telephone & Telegraph Wires
*Dr. Cassierer, Charlottenburg*

Electric Fans, Small Motors, X Ray Apparatus
*Dr. Max Levy, Berlin*

Telephones, Central Stations, Bells
*Telephonfabrik vorm. F. Berliner, Hannover*

Textile Machinery, Bleaching & Dyeing
Finishing & Printing Plants for Cotton, Linen, Wool
*Fr. Gebauer, Berlin*

Ice-making & Refrigerating Plants, Centrifugal.
*Leopold Ziegler, Berlin*

Wood-working Machinery, *Teichert & Sohn*

"Atlas" Cranes, Electric Cranes, Differential Blocks
*Eduard Weiler, Berlin*

Steel Constructions, Steel Bridges, etc.
*Louis Eilers, Hannover*

Watermeters, Woltmann Meters
*Bresslauer Metallgiesserei, Breslau*

**Have you ever stopped**

*to consider that a lubricant that splashes or drips increases the fire risk of a building?*

Increased fire risk means *increased fire insurance rates.*

**ALBANY GREASE**
**neither splashes nor drips.**

That's why five underwriters will allow a *lower* rate on buildings containing machinery lubricated with ALBANY GREASE than on buildings containing oil lubricated machinery.
ALBANY GREASE effects many other economies. That's why it's the *cheapest* of all lubricants to use.

*You can readily prove, at our expense, what an all-around economical lubricant ALBANY GREASE is for all machinery. Just send us pipe tap, depth of oil hole, where used and name of firm. An Albany Grease cup and trial package of ALBANY GREASE will come to you free.*

**ALBANY LUBRICATING COMPANY**
**Sole Makers**
ADAM COOK'S SONS, *Props.* 313 WEST ST., NEW YORK,

## HOTEL DE FRANCE

PLAZA GOITI, MANILA

Best Appointed Hotel in Manila in Heart of Business Section.—Large Sample Rooms.—Hot and Cold Water.—Elegant Banquet Hall.—Private Dining Rooms.—French Cuisine.—Guides for Tourists.—Interpreter meets all Steamers.

**Cable Address: CAMS**

THE
**CROWN**

**IGNITOR**

MADE BY
F. H. THOMPSON
MANILA
P. I.

**A High Grade Dry Cell**

25 AMPERES OVER
1½ VOLTS

*Guaranteed*

Specially adapted to cope with Oriental Climatic Conditions.

**Replace All Others Wherever Used**

# SOLIGNUM

THE RAVAGES OF THE **WHITE ANT**, DECAY, FUNGUS AND DRY ROT DESTROY PROPERTY TO THE VALUE OF MILLIONS YEARLY

THE ONLY SURE AND RELIABLE PROTECTION IS

## "SOLIGNUM"

CAN BE APPLIED IN MANY SHADES OF COLOR TO STONE, WOOD OR BRICKWORK. SOLD IN 5 AND 10 GALLON DRUMS AND 40 GALLON CASKS

# PROTECTS

*For Sale by* **THE CHINA IMPORT EXPORT LUMBER CO., Ltd.** SHANGHAI, HANKOW, TIENTSIN, TSINGTAU

*Hongkong and Canton:* SIEMSSEN & CO. -:- *Foochow:* SIEMSSEN & KROHN -:- *Amoy:* PASEDAG & CO

# THE PREMIER COMPANY OF THE EAST

## Agencies from London to Manchuria

EXTRACT FROM 12th ANNUAL REPORT SHEWING A RECORD PROGRESS : : :

| | |
|---|---|
| Insurance in Force | $37,855,885 |
| Assets | $ 8,415,250 |
| Income | $ 3,566,559 |
| Total funds | $ 8,216,812 |

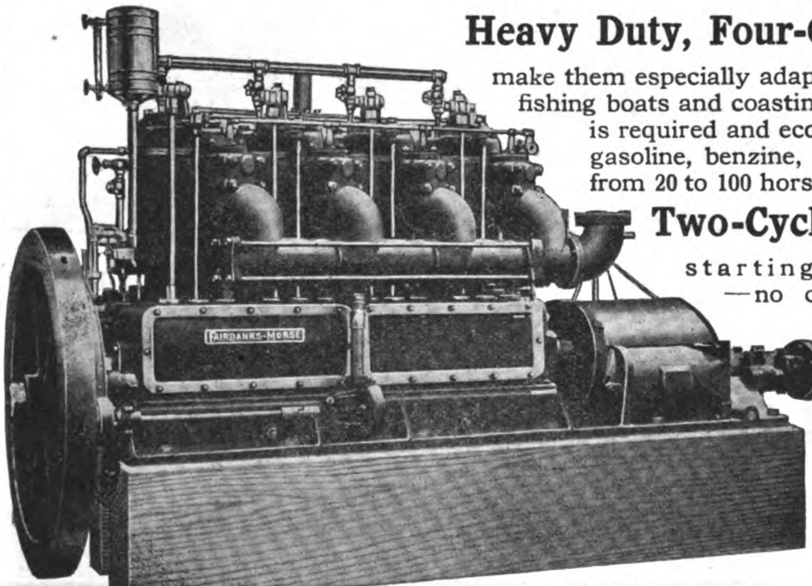
*Low Rates!*

*Unconditional Policy!*

*Largest Bonuses!*

Registered under Hongkong Ordinances and under the Life Assurance Companies' Acts, England; and offers its Home-Returning policyholders the Double Advantage of being able to pay their Premiums to the Company's London and American Agents, Messrs. Thomas Cook and Sons, at reduced rates.

# Fairbanks-Morse Marine Engines



100 H. P. Heavy Duty Marine Engine

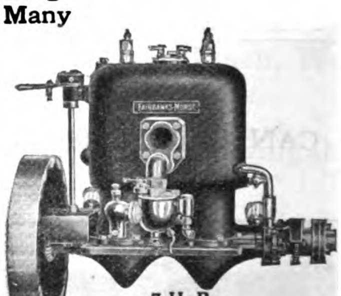
**Heavy Duty, Four-Cycle Type** Their simplicity, strength and reliability make them especially adapted for service in cruising yachts, tugs, fishing boats and coasting vessels, where hard, continuous work is required and economy of fuel is a factor. Operate on gasoline, benzine, kerosene or alcohol. Built in sizes from 20 to 100 horsepower.

3½ H. P. Two-Cycle Marine Engine

**Two-Cycle Type** 3½ to 45 horse-power. Safety starting device. No trouble—no danger—no cranking. Cylinder, crank, piston, rings, pin and shaft are ground true on special machines. Large hand hole in crank case. Many other patented features found on no other engine.

**Guaranteed for One Year**

Each engine is tested and must develop more than rated horsepower before it leaves the factory. When you buy ***Fairbanks-Morse*** engines you know that you are getting the best design, material and construction that can be offered.


7 H. P. Two-Cycle Marine Engine

***Mention this publication and send at once for Catalog No. 956 TF.***

**FAIRBANKS, MORSE & CO., Chicago, Ill., U. S. A.**

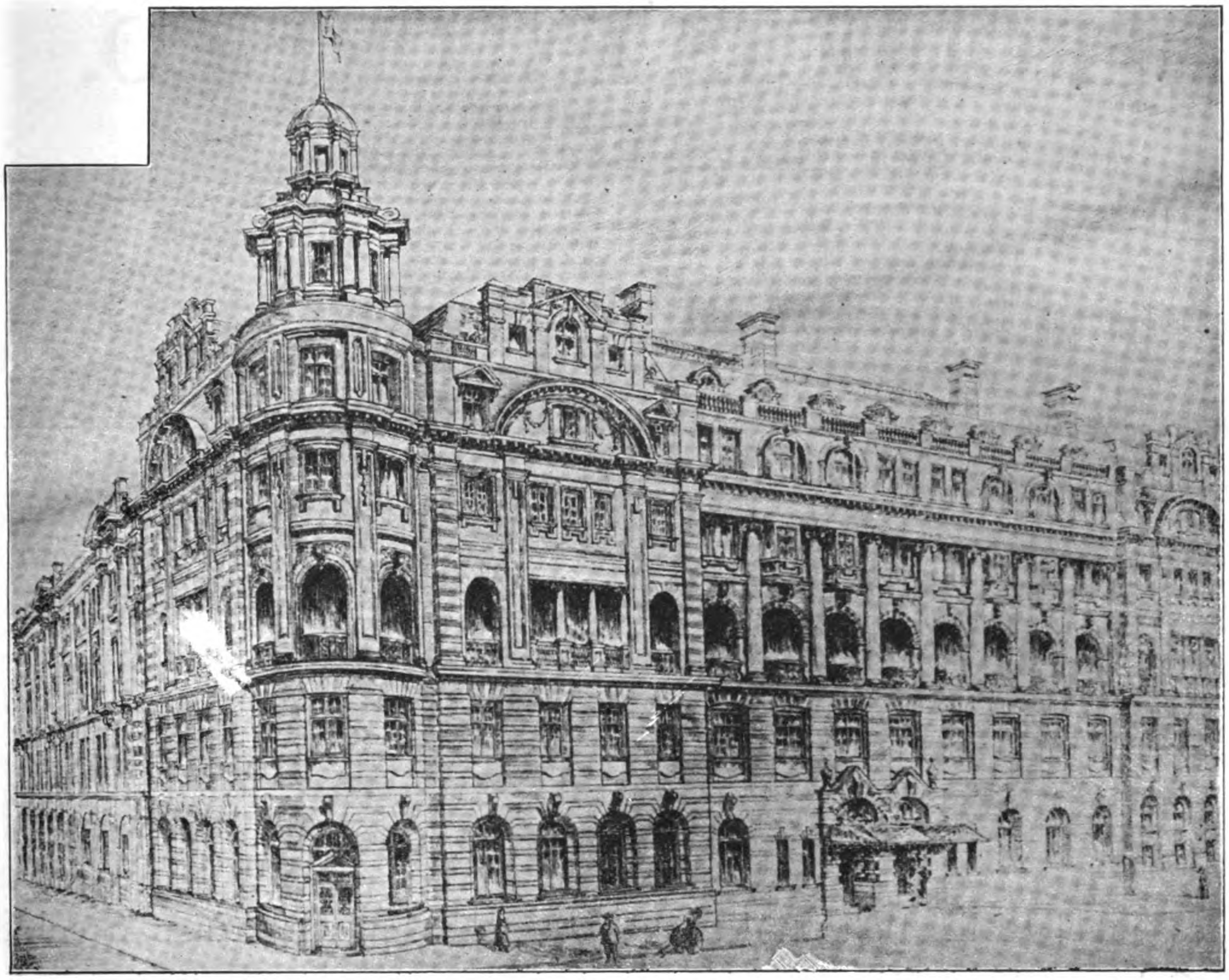
*Agents* Manila—CASTLE BROS. — WOLF & SONS
Hong Kong—DODWELL & CO., Ltd.
Shanghai—CHINA GENERAL ENG. CO.
Singapore—FRASER & CHALMERS, Ltd.

# ASTOR HOUSE HOTEL CO., LTD.

**Cable Address:**
**"ASTOR" SHANGHAI**
**Chinese Name: "LEE-ZO**

**W. BRAUEN**
Manager.

**Codes Used:**
A. B. C. 5th EDITION
WESTERN UNION



*Telephone:*

| | | | |
|---|---|---|---|
| GENERAL OFFICE. . . . . . | 200 | MANAGER'S. . . . . . . . . . . . . | 908 |
| SECRETARY'S OFFICE . . . . | 500 | GUESTS' . . . . . . . . . . . . . | 904 |

# THE WALDORF-ASTORIA OF THE ORIENT

**Largest, Best and Most Modern Hotel in the Far East. Main Dining Room Seats 500 Guests, and is Electrically Cooled. Two hundred Bedrooms with Hot and Cold Baths Attached to Each Room.**
**Cuisine Unexcelled; Service and Attention Perfect. Summer Garden; American Bar and Billiard Room; Lounge, Smoking and Reading Rooms; Barber and Photographer on the Premises.**

***Rates from $6; Special Monthly Terms***

## SHANGHAI, CHINA

# United States Steel
## PRODUCTS EXPORT CO.

**24a Kiangse Road, Shanghai**

## Exporters of the Products of

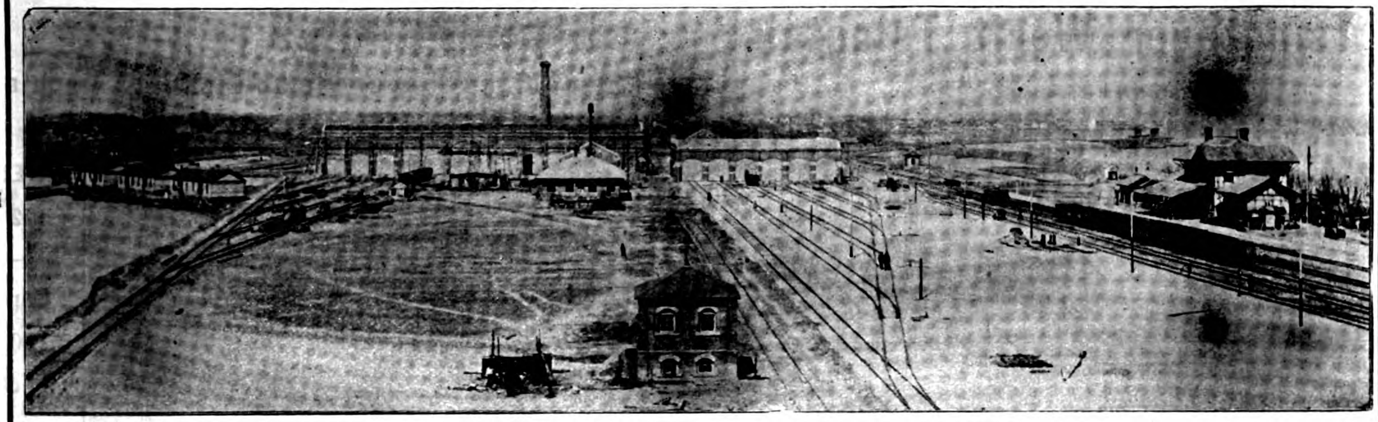
*Carnegie Steel Co.*
*Lorain Steel Co.*
*Illinois Steel Co.*
*Shelby Steel Tube Co.*
*National Tube Co.*
*Western Tube Co.*
*Tennessee Coal & Iron Co.*
*American Sheet & Tin Plate Co.*
*American Steel & Wire Co.*
*American Bridge Co.*

## Manufacturers of

Bridges, Steel Rails, Bolts and Spikes, Switches and Crossings, Steel Cross Ties, Schoen Steel Wheels, Forged Axles, Coil Springs, Tubular Poles, Buildings, Steel Plates, Shapes, Concrete Reinforcement, Shafting, Merchant Bars, Tool Steel, Hoops, Corrugated Sheets, Tin Plate, Boiler Tubes, Gas, Steam and Water Pipe, Pipe Fittings, Wire Nails, Wire Rope, Steel and Copper Wire, Wire Fencing, Horse Shoes,

CARNEGIE STEEL SHEET PILING

*Designs and Estimates Submitted for Bridges and Steel Buildings Erected Complete*

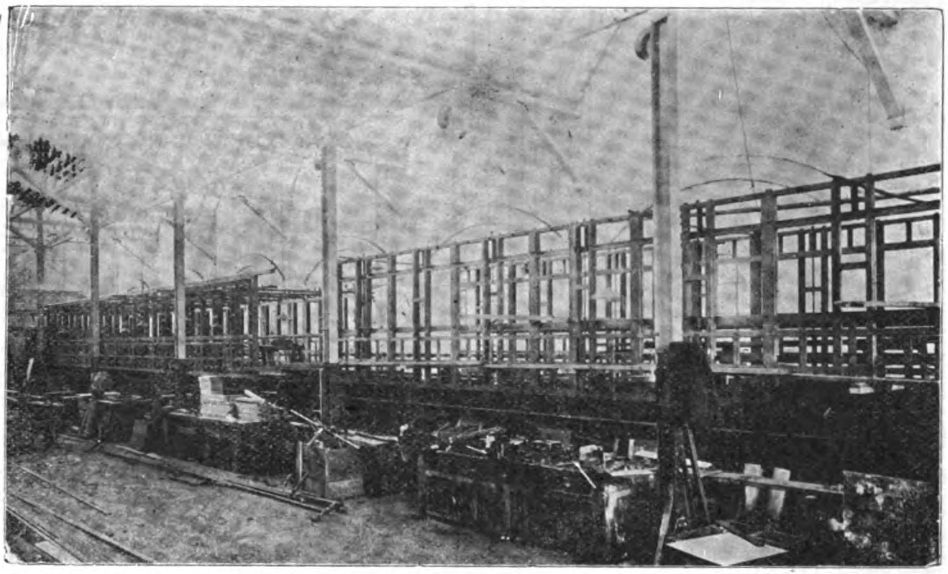


# WOOSUNG CAR SHOPS

OF THE

## SHANGHAI -:- NANKING -:- RAILWAY

LOCATED AT WOOSUNG AT ENTRANCE TO WHANGPOO RIVER, SHANGHAI. DEEP WATER WHARF WITH EVERY FACILITY FOR HANDLING HEAVY MATERIAL.



VIEW OF ERECTING SHOP

THESE SHOPS ARE FULLY EQUIPPED WITH THE MOST MODERN PLANT AND APPLIANCES FOR THE CONSTRUCTION OF CAR BODIES AND SETTING UP CAR PARTS ORDERED FROM ABROAD, ALL UNDER EXPERT SUPERVISION : : : : : : : : : : : : : : : : :

**CARS FOR THE NANKING CITY RAILWAY, KIANGSU RAILWAY AND THE ANHWEI RAILWAYS WERE SET UP AND FINISHED AT THESE WORKS**

CORRESPONDENCE WITH OTHER RAILWAY COMPANIES SOLICITED

## SHANGHAI NANKING RAILWAY

Managing Director
TAOTAI CHUNG MUN-YEW

General Manager
A. W. U. POPE

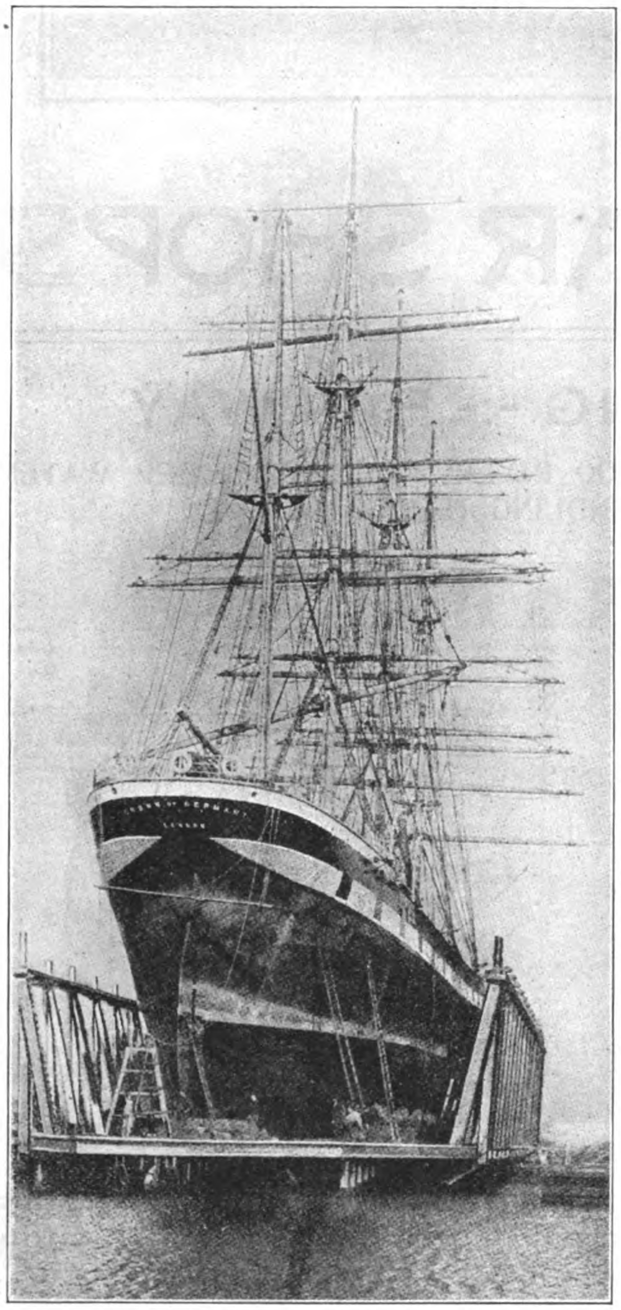
# The Tsingtauer Werft Tsingtau

CHINA

Largest floating dock in China

Capacity 16000 tons

for ships up to 460 feet length.



Builders and repairers of ships and engines.

All kinds of repairs done with despatch.

Electric crane to lift 150 tons.

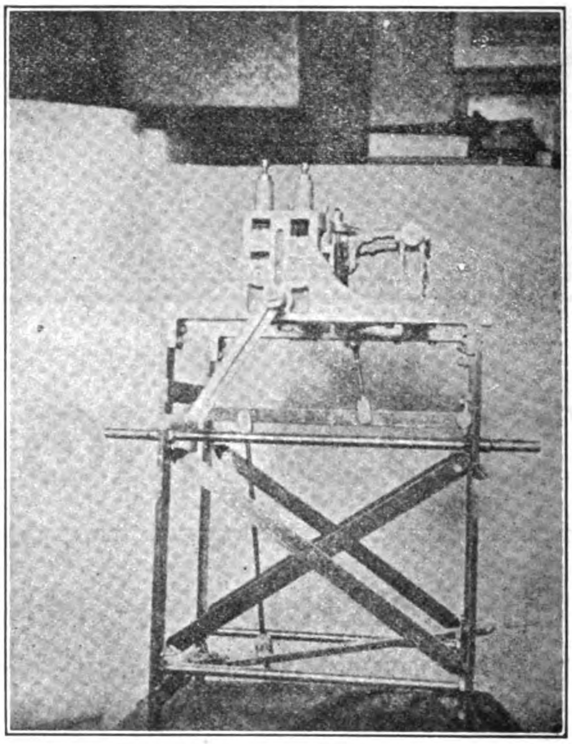
Telegraphic address: WERFT TSINGTAU

Codes used: A.B.C. Code, 5th Ed. A-1 Code.



# THE "DAILEY"

**Patent Hand-Power Hemp Cleaning Machine**



WEIGHT 172 LBS

Capacity 150 lbs. of clean, white Brilliant Fiber per day.

FOR PRICES AND PARTICULARS *Address*

*C. E. DAILEY*

82-92 BEAVER ST. NEW YORK



# The Philippine Journal of Science

Edited by

PAUL C. FREER, M. D., Ph. D.

*A Journal devoted to the scientific work done in the Philippine Islands by the members of the Staff of the Bureau of Science, and by other scientific workers.*

**PUBLISHED BY THE BUREAU OF SCIENCE OF THE PHILIPPINE ISLANDS**

Volume V will begin January, 1910:

| | | |
|---|---|---|
| The entire Journal | $5.00 | U. S. currency |
| Section A, General Science | 2.00 | U. S. currency |
| Section B, Medical Sciences | 3.00 | U. S. currency |
| Section C. Botany | 2.00 | U. S. currency |
| Single Numbers | .50 | U. S. currency |

Each section is separately paged and indexed.

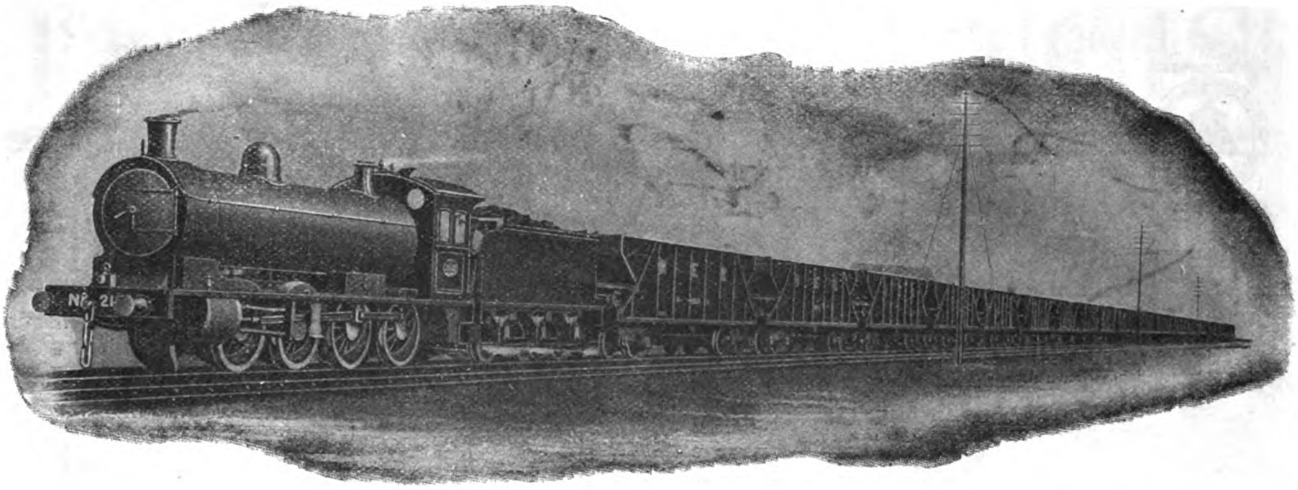
A limited number of unbound copies of previous volumes are available and can be secured from the Director of Printing at the following rates: Volume I, 1906 (not divided into sections) $5, U. S. currency; Supplement to Volume I, $2.50, United States Currency; Volume I (without supplement), $3, United States currency; all later volumes at current subscription prices.

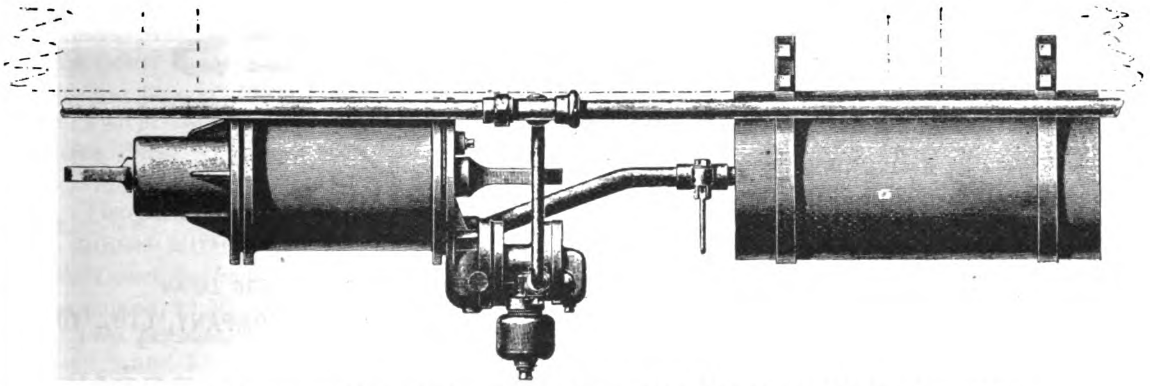
SUBSCRIPTIONS may be sent to the DIRECTOR OF PRINTING, Manila, P. I.

# THE WESTINGHOUSE BRAKE

N. E. R. Goods Train fitted with the Westinghouse Brake and Friction Draft Gear.

**STANDARD ON MORE RAILWAYS THAN ANY OTHER BRAKE**





APPLICATION OF IMPROVED TRIPLE VALVE TO CHINESE RAILWAY CARRIAGES OR WAGONS

THE 3½" IMPROVED WESTINGHOUSE TRIPLE VALVE: SIMPLE IN CONSTRUCTION AND ESPECIALLY DESIGNED TO MEET THE REQUIREMENTS OF FAR EASTERN RAILWAYS

Manufactured and furnished solely by

**The Westinghouse Brake Co., Ltd.**

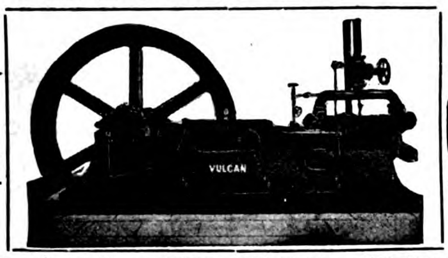
London

JARDINE MATHESON & CO., LTD.

Sole Agents for China

# ICE MACHINES

OF ANY DESIRED CAPACITY

VUL  CAN



## VULCAN IRON WORKS

San Francisco, California, U. S. A.

SEND FOR CATALOGUE — Cable Address: "VULCAN" San Francisco

# Big Vehicle Values

No. E-5008
Cable Name "Chindiv'n";
Price $169.75 (£35-7s 4d)
Crated and F. O. B. Vessell, New York.

"Murray" Vehicles and Harness at a Saving from 25 to 40%

Why buy vehicles and harness from a dealer when you can save from 25 to 40% by buying direct from **The Wilber H. Murray Mfg. Co.**, one of the best known vehicle, harness and saddle concerns in the world! "Murray" products are sold in every part of the world and are well known especially for our famous

## "Murray" Guarantee of Quality

Every "Murray" product is backed by our guarantee to be as represented, and you can be sure that you will make no mistake in dealing with us, as there is no question as to our responsibility and financial standing, and our honesty in dealing for the past 24 years has resulted in thousands of satisfied customers.

**The "Murray" Style Book No. 192 Absolutely Free**

We cordially invite you to write for our "Murray" Style Book for 1910, which contains 152 pages, illustrating and describing 251 different designs, many of them in colors, among them 138 styles of carriages of the latest designs, 74 styles of harness and a fine saddle stock.

THE WILBER H. MURRAY MFG. CO.
321 to 329 East Fifth Street, Cincinnati, Ohio, U. S. A.

No. E 5001 Cable Name "Chimoio". Price $46 75 (£9-14 S- 10 d) Crated and F O B Vessell New York

# Bohler Bros. & Co., Ltd.

## Steel Works

### SYRIAN TOOL STEEL

*Vienna, London, Berlin, Sheffield, Paris, Brussels, Leipsic, Dusseldorf, Munich, Frankfort a/m, Prague, Budapesth, Remscheid, Moscow, St. Petersburg, Ekaterinburh, Vladivostok, Tokyo, Osaka, Sydney, Moji*

*Extensive Stock at Shanghai of Highspeed, Tungsten, Chromium and Manganese Steels, Drill Steel, Tools, Files, Wire Ropes, Etc.*

On Admiralty List — Contractors to most Governments.

Japan Branch: International Building, Tokyo.

China Branch: 10 Kiangse Rd., Shanghai.

THE

# Western-Electric

COMPANY

*FURNISHES EQUIPMENT FOR EVERY ELECTRICAL NEED*

Manufacturers of the celebrated

## "BELL" TELEPHONES

Distributors of Electrical Apparatus
and Materials of all Kinds

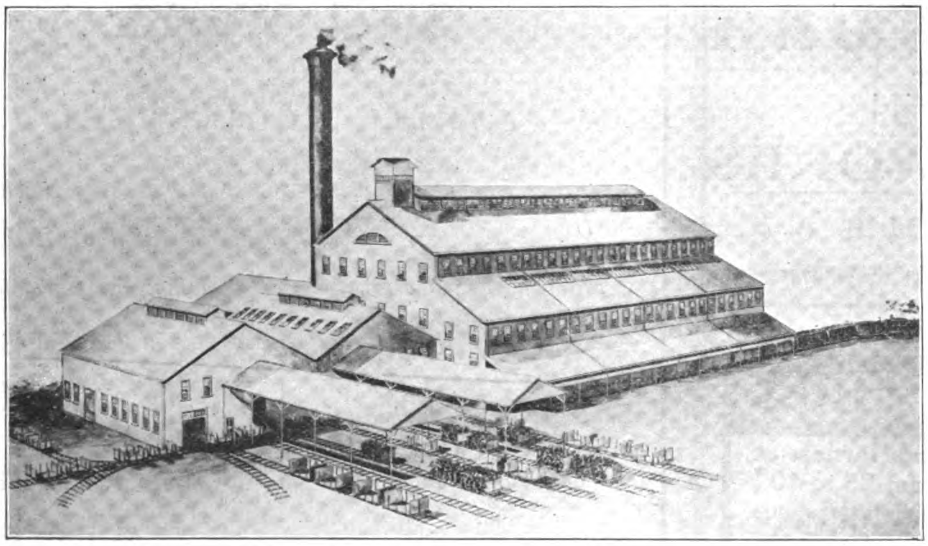
AGENTS FOR CHINA
ARNHOLD, KARBERG AND COMPANY, SHANGHAI

AGENTS FOR JAPAN
NIPPON ELECTRIC COMPANY, LTD., TOKYO

*CATALOGUES, BULLETINS AND ESTIMATES FURNISHED ON REQUEST*

# HONOLULU IRON WORKS COMPANY

Established 1852 HONOLULU, TERRITORY OF HAWAII Rebuilt 1899



EWA MILL DESIGNED BY HONOLULU IRON WORKS COMPANY, FOR A CAPACITY OF 2,400 TONS CANE PER DIEM

BUILDERS OF

## Sugar Machinery

OF ALL DESCRIPTIONS

Sugar Mills
Evaporators
Tanks
Cane Cars
Vacuum Pans
Steam Boilers
Riveted Steel Pipe
Cane Unloaders, Etc.

Consulting Engineers, Designers and Contractors
FOR COMPLETE SUGAR FACTORIES

# HONOLULU IRON WORKS COMPANY

Eastern Office, 11 Broadway, NEW YORK

Cable Address: "HONIRON," Honolulu Codes: A. B. C. 4th and 5th Editions and Western Union

# HOTEL ST. FRANCIS

## Union Square =:= San Francisco

ROOMS WITHOUT BATH

Open Court Outlook
One person, $2.00
Two persons, $3.50

Facing Park
One person, $2.50
Two persons, $4.00

ROOMS WITH BATH

Open Court Outlook
One person, $2.50 and $3.00
Two persons, $4.00 and $5.00

Street Outlook
One person, $3.50, $4.00 and $5.00
Two persons, $5.00 and $6.00

Facing Park
One person, $5.00 and $6.00
Two persons, $6.00, $7.00 and $8.00

SUITES

Sitting Room, Bedroom and Bath
One or two persons, $10.00, $12.00, $15.00, $18,00, $20.00

Servant's Room, $1.50 a day
Servant's Meals, $1.50 a day

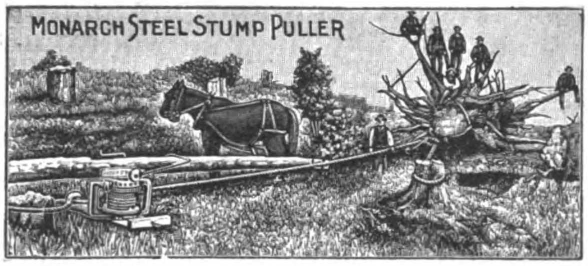
IN the City of San Francisco, Union Square is probably the most unique metropolitan center in America. Here, within a radius of two blocks, are all the fashionable shops, the theaters and most of the clubs. There is possibly no city in the world where so many characteristic features are assembled within a limited area and no city in America the local color of which is so fascinating to the traveler. Facing one side of this park is the imposing Hotel St. Francis, the largest hotel investment in Western America, which, upon completion of its annex, will become the largest hotel in the world. The St. Francis is generally conceded to be the farthest advance of science in modern hotel service, and also presents architecturally one of the best examples of an artistic treatment of a utilitarian idea

Launches complete ready to run. Engines operate on KEROSENE. (paraffin). Gasoline. (petrol) distillate (COAL OIL) alcohol or naptha
Any one can operate them
All launches guaranteed and tested

MICHIGAN STEEL BOAT CO.,
Dept. 'T.—1256-1500 Jefferson Avenue,
DETROIT, MICHIGAN, U. S. A.

High grade pleasure and service motor boats 16, 18, 20, 23, and 27 feet long, ready for use with high grade two cycle reversible Detroit engines installed. Start without cranking and need no lamp; boats absolutely non-leakable, non-sinkable, and non-rustable. NEED NO BOATHOUSF, CANNOT BE EATEN INTO BY WORMS OR BUGS, used throughout the world. Agencies with first-class reputable business houses particularly desired. Bank references exchanged. Will quote prices in your own currency, freight prepaid to any part of the world. Write TO-DAY for our FREE ILLUSTRATED CATALOG giving all information in regard to constructions, dimensions, equipment, etc., and SPECIAL PRICES. UNSOLICITED TESTIMONIALS FROM USERS OF MICHIGAN STEEL IN ALL PARTS OF THE WORLD SENT ON REQUEST.

MONARCH
STEEL
STUMP
PULLERS




Will pull green stumps 7 feet in diameter and will clear from 1 to 5 acres a day. GUARANTEED 700 horse power and against breakage. ONLY stump Puller Factory in the world making their own STEEL CASTINGS. For catalog and discounts, address Dept.
ZIMMERMAN STEEL CO., Lone Tree, Iowa, U. S. A.

EASTERN ENGINEERING COMPANY
ARCHITECTS AND ENGINEERS

Special attention paid to Reinforced Concrete Designing : : : : : :

**Correspondence Solicited**

Rooms 10 and 11 LACK & DAVIS Bldg. Manila, P. I.

# J. G. WHITE & COMPANY
INCORPORATED

*Engineers, Contractors*
*Purchasing Agents*
*Managers*

**43-49 Exchange Place, New York, N. Y.**

*Alaska Commercial Building*
*SAN FRANCISCO, CALIFORNIA*

*First National Bank Building*
*CHICAGO, ILLINOIS*

LONDON CORRESPONDENTS

**J. G. WHITE & COMPANY, Limited, 9 Cloak Lane, E. C.**

# The Han-yeh-ping Iron and Coal Co., Ltd.

**Telegraphic Address**
**"HANSTEEL"**

**Codes used:**
**A.B.C. 5th Ed., Western Union and Engineering Telegraph Codes.**

**HEAD OFFICE:**
**110, Bubbling Well Road, Shanghai, China.**

The following Works and Mines, the property of the Company, are in active operation:—
HANYANG IRON AND STEELWORKS—situated in Hanyang (Hankow).
PINGHSIANG COLLIERY—situated in Pinghsiang, at border between Kiangsi, and Hunan Province.
TAYEH IRON MINES—situated in Tayeh on the Yangtsze River 72 miles below Hankow.

## HANYANG IRON AND STEEL WORKS

**Works Head Office in Hanyang**

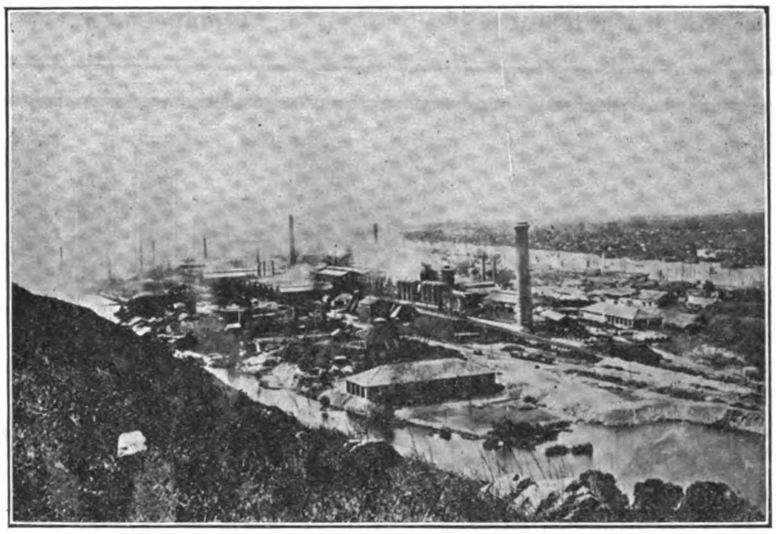
**Sales Office:—45 Szechuen Road, Shanghai, and also in Hongkong and Canton.**
**Representative in Australia:—*L. H. DRAKEFORD.***

PIG IRON

*Foundry*—Largely exported to Japan and America, where it finds the highest favor—Sold by Grain—Can be cast over again.
*Basic Iron*—For steel making also largely exported to America and Japan.

STEEL MATERIALS

All steel is made by the Siemens-Martin process and supplied to pass any standard tests.
*Railway Supplies*—Standard-Gauge Rails from 50 lbs. per yard (25 kg. per m.) up to 100 lbs. (50 kg. per m.)
*Narrow Gauge Rails*—from 16 lbs. per yard (8 kg. per m.) up to 50 lbs. (25 kg. per m.)
*Fishplates, Spikes, Bolts and Nuts.*
*Structural Shapes*—Bars, Plates and Angles, etc.



SHIPPING DEPARTMENT

The light draft steamer *Hanping*, fitted with electric lights and strong derricks and running between Hankow and Shanghai, is the best steamer to handle heavy machinery in the Yangtsze River.

WHARF—The Company owns a wharf in Shanghai, situated at Nam Ma Tau on the Pootung Side a little below the Kiangnan Arsenal, with a frontage of about 900 feet and offering excellent accommodation for the storage of Coal or Timber.

For particulars and terms, apply to the Sales Office, No. 45 Szechuen Road, Shanghai.

## PINGHSIANG COLLIERY

**Head Offices and Shipping and Sales Offices:**

**No. 1 Poyang Road, Hankow =:= Sales Office, Shanghai, 45 Szechuen Road**

**COAL**—Best Steaming Coal—Navy Lump, Run of the Mines, and Washed Nuts. Stocks kept in Yochow, Hankow, Kiukiang, Wuhu, Nanking, Chinkiang, and Shanghai.

Contracts made with the following Companies for the supply of Bunker Coal:—

Messrs. Butterfield & Swire, The Hamburg Amerika Linie, The East Asiatic Co., Ltd., Tung Kee & Co., The Asiatic Petroleum Co., The Standard Oil Co. of New York, and the Robert Dollar Co.

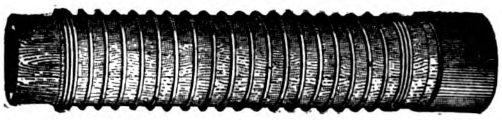
Suppliers also to the following Navies:—
The Imperial Chinese Navy, The British, German, and French Navies.

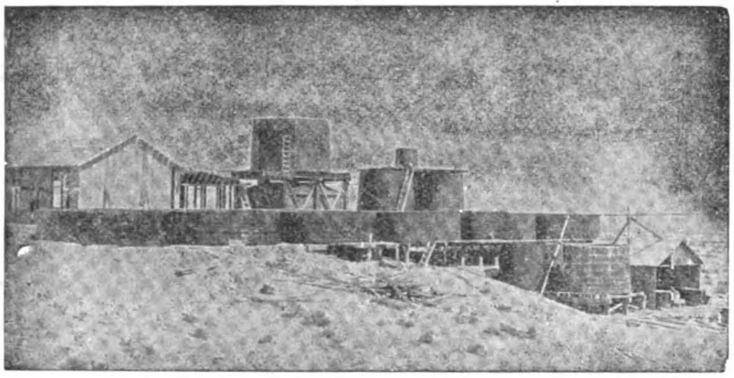
**COKE.**—Foundry and Blast Furnace—Exported also to Japan and America.

**For particulars as regards prices, etc., application may also be made to Johnsen & Herlofson, 8 Kiangse Road, Shanghai.**

WHAT DO YOU KNOW ABOUT

## WOOD WATERPIPE AND TANKS?





AS MANUFACTURED BY THE

## PACIFIC TANK & PIPE CO.

SUCCEEDING

NATIONAL WOOD PIPE CO. -:- PACIFIC TANK CO.

OUR SPECIALTIES

**Wooden Water Pipe For**

**Power Plants, Irrigation Systems, City Water Supply**

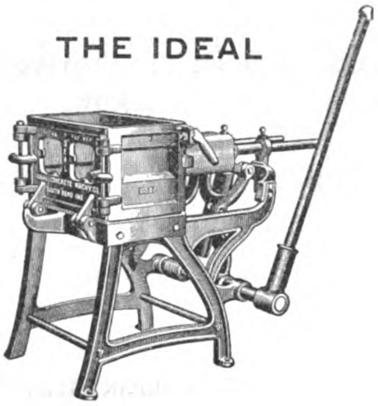
Machine Banded Pipe in Sizes From 2-in to 24-in. diameter. Continuous Stave Pipe In Sizes From 12-in. to 12-ft. Head. Pressures Up To 400 ft.

Send For Our Latest Printed Matter

**318 MARKET ST., SAN FRANCISCO, CAL., U. S. A.**



THE IDEAL



## THE LAMBERT-SPRINGER CO., INC.

### Fortunes for the Enterprising

**The Hollow Concrete Block Has Come to Stay. It is Economical, Sanitary and Attractive. The Ideal Concrete Machine Makes Blocks of any Design—Machines Available at Small Cost—Suited to Construction Work in Tropics.**

99—107 Plaza Santa Cruz, Manila

Cable Address: LAMBERTMES

P. O. Box 885 Phone 433

Codes: Western Union A. B. C. 5th Ed. and Private

# Malthoid Roofing

WATER PROOF MALTHOID WEATHER PROOF

AND

## P & B PRODUCTS

**MALTHOID ROOFING** is specified by the best Architects and Engineers and used by the best contractors on all notable buildings in the Far East.

**MALTHOID ROOFING** is past the experimental stage and is a recognized standard of roofing.

When laid according to our specifications it is guaranteed.

For booklet and samples write to your nearest Agent.

**FAR EASTERN AGENCIES:**

SHANGHAI - Messrs. Samuel, McGregor & Co., Ltd.
TIENTSIN, China - Messrs. William Fobes & Co.
HANKOW, China - Messrs. Westphal, King & Ramsay, Ltd.
HONGKONG and CANTON - Messrs. Arnhold, Karberg & Co.
VLADIVOSTOCK, Kharbin, Kharbarwjsk and Blagovestcheonst - Messrs. Kunst & Albers.
TOKYO, Kobe, Dalny and Seoul - Messrs. Fussiwara & Co.
SINGAPORE and PENANG - Paterson, Simons & Co., Ltd.
BANGKOK, Siam - Messrs. G. Cluzer & Co.
SAIGON - Messr. Allitine & Co,
Java and Dutch East-Indies "LINDETEVES Sourabaya and Samarang

**DISTRIBUTERS FOR THE PHILIPPINES**

## CALIFORNIA MANILA LUMBER COMMERCIAL CO.

Offices: LACK & DAVIS Bldg. Salesrooms under HOTEL METROPOLE

## "FIGHTING BOB"

*Admirals*
*Commanders*
*Lieut.-Commanders*
*Ensigns*
*Cadets*

*Divinos*
*Perfectos*
*Regalias*
*Bouquets*
*Londres*

## "JOSE RIZAL"

*Generals*
*Colonels*
*Majors*
*Captains*
*Lieutenants*

*Perfectos*
*Sergeants*
*Corporals*
*Privates*
*Londres*

BY MEN WHO KNOW the value of a good cigar, these two brands are particularly appreciated. They represent the real worth of a cigar in quality and workmanship; the two most essential features of a good smoke. They are manufactured from the most carefully selected leaf grown in the rich fields of Isabela Province, and no expense is spared in the preparation of the filler as well as the wrapper, and the result is a cigar that is as perfect as is possible to manufacture. : : : : : :

MILD, FRAGRANT SATISFYING Three important requisites so often found lacking in the usual run of cigars. That's why they sell. Smoke any shape in critical comparison with the best cigar you know of equal money value and prove to your own satisfaction that these cigars are a revelation of excellence in point of aroma as well as shape. Don't be put off when the dealer offer you "something just as good." Remember the money is yours, and that dealers seldom offer substitutes for your benefit. : : : : : : : : : : : : : :

FOR SALE BY ALL LEADING HOTELS, CLUBS, BARS AND FIRST CLASS CIGAR STORES

KIOSKO HABANERO
*27 ESCOLTA*

Walter E. Olsen & Co.
*MANILA, P. I.*

KIOSKO RIZAL
*168-170 ESCOLTA*

# BANCO ESPAÑOL FILIPINO

(ESTABLISHED 1851)

## Depository for the Government of the Philippine Islands

Capital Fully Paid up ....... ₱2,596,000.00
Reserve Fund .......................... 408,715.63

## *London Bankers*

***THE NATIONAL BANK OF SCOTLAND, LTD.***

Buys and sells Drafts on Spain, France, Germany, England and other countries.

**TELEGRAPHIC TRANSFERS**

Interest allowed on fixed deposits and current accounts at usual rates.

**GENERAL BANKING BUSINESS**

BRANCH IN ILOILO

| PRESIDENT | VICE-PRESIDENT |
|---|---|
| JOHN S. HORD | GONZALO MARZANO |

**NO. 10 PLAZA DE CERVANTES**

THE CHINESE ENGINEERING AND MINING Co., LTD.

# KAIPING COAL COKE

FOR ALL

INDUSTRIAL AND HOUSEHOLD PURPOSES

## CARGO

## SHANGHAI TO MOUKDEN

CARRIED AT

## THROUGH RATES

THROUGH PASSENGER SERVICE WITH TIENTSIN, PEKING, SHANHAIKWAN AND NEWCHWANG VIA CHINWANGTAO, RETURN TICKETS INTERCHANGEABLE WITH HAMBURG-AMERICA LINE. CIRCULAR TOURS TO TIENTSIN AND PEKING VIA HANKOW AND LUHAN RAILWAY RETURNING BY SEA OR VICE VERSA

# FIREBRICKS

## FIRECLAY

AND

## SPECIAL BLOCKS

OF ALL KINDS

## SALT GLAZED STONEWARE PIPES

## THE CHINESE ENGINEERING AND MINING CO., LIMITED

Head Office: TIENTSIN.
SHANGHAI, I Jinkee Road,
HONGKONG. Alexandra Buildings

CHEFOO: Anz & Co.
WEIHAIWEI: Lavers & Clark.
HANKOW: C. Monbaron, Esq.
DALNY: Cornabe, Eckford & Co.
TSINGTAU, NEWCHWANG, MUKDEN: Arnhold, Karberg & Company.
PEKIN: J. Redelsperger, Esq.
SINGAPORE: Adamson, Gilfillan & Company, Ltd.

AGENCIES

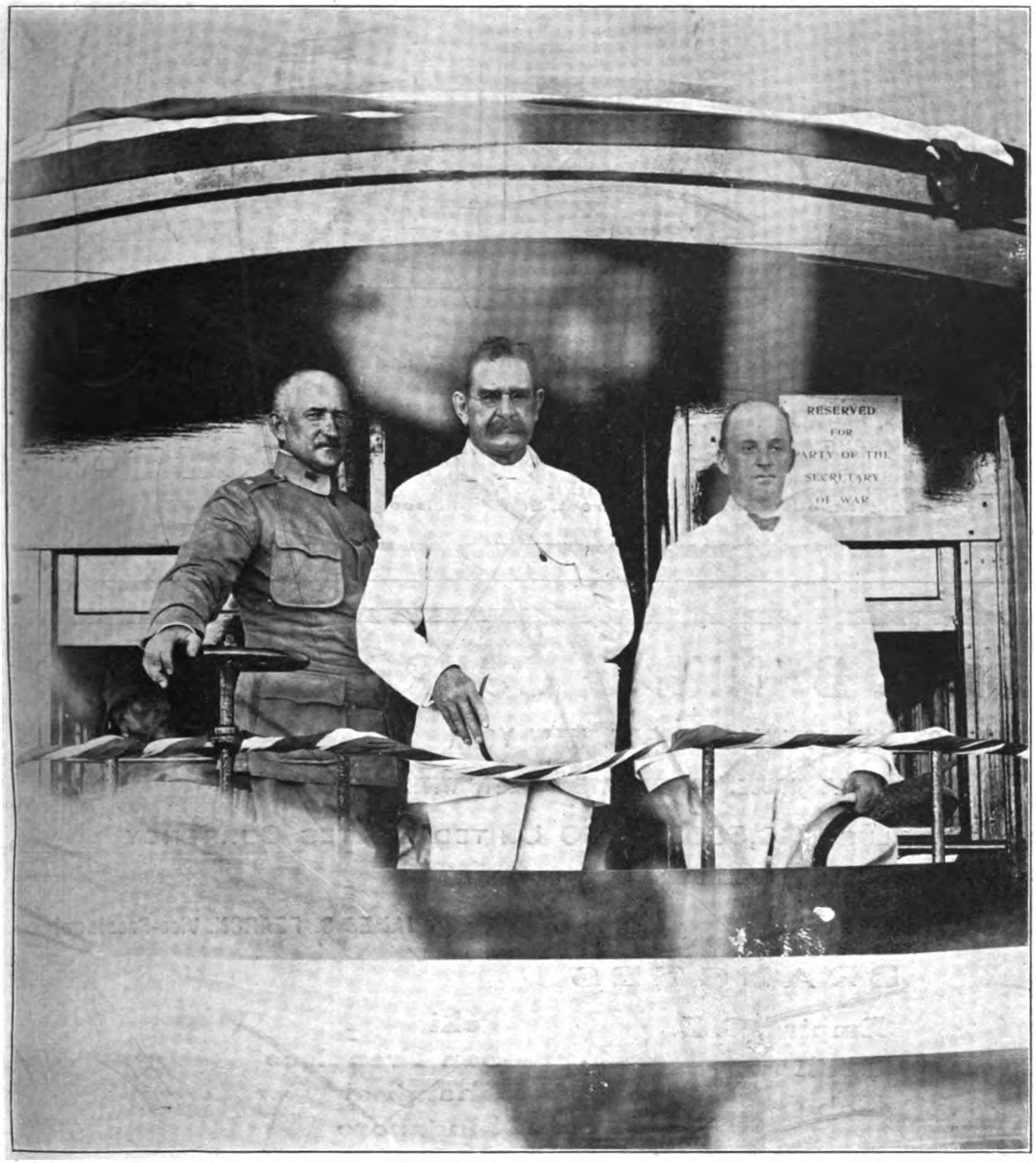
The addresses of the Company's Agencies are as follows:

| | | TELEGRAPHIC ADDRESS. |
|---|---|---|
| TIENTSIN | C. E. & M. Co., Ltd., Office | MAISHAN |
| TONGKU | do. | MAISHAN |
| CHINWANGTAO | do. | MAISHAN |
| HONGKONG | do. Alexandra Buildings | MAISHAN |
| SHANGHAI | do. 1 Jinkee Rd. | SILI |
| CHEFOO | Anz & Co. Agents | MAISHAN |
| DALNY | Cornabe, Eckford & Co. ,, | CORNABE |
| WEIHAIWEI | Lavers & Clarke ,, | MAISHAN |
| TSINGTAU | Arnhold Karberg & Co. ,, | MAISHAN |
| NEWCHWANG | Arnhold Karberg & Co. ,, | MAISHAN |
| MUKDEN | Arnhold Karberg & Co. ,, | MAISHAN |
| HANKOW | C. Monbaron ,, | MONBARON |
| SINGAPORE | Adamson, Gilfillan & Co., Ltd. ,, | GILFILLAN |
| PEKING | J. Redelsperger ,, | REDELSPERGER |
| LONDON | C. E. & M. Co., Ltd., Office 22 Austin Friars E. C. | KAIMACS |
| BRUSSELS | do. 48 Rue de Namur | KAIPING |

China, Manchuria, Japan, Indo-China, Siam, Straits Settlements, Malay States, Burma, India, Malaysia, and the Philippines

# THE FAR EASTERN REVIEW

VOL. VII.—No. 5. MANILA, SHANGHAI AND YOKOHAMA, OCTOBER, 1910. 50 Centavos Philippine Currency 25 Cents. U. S. C.




Rear View of Special Train on Philippine Railway Co.'s Line at Passi, Panay, Showing Secretary of War Dickinson, General Edwards and Governor General Forbes on Occasion of the Formal Opening of the Line.

Opening of the British Section of the Kowloon-Canton Railway

Canton-Hankow Railway Construction

Philippine Railways for 1910

General News and Comment

Cyaniding in the Philippines

## ENGINEERING
## COMMERCE FINANCE

# Hongkong and Shanghai Banking Corporation

***DEPOSITORY OF THE GOVERNMENT OF THE PHILIPPINE ISLANDS***

| | |
|---|---|
| **Capital (Paid in Cash).........$15,000,000** | **Silver Reserve Fund............$16,000,000** |
| **Sterling Reserve Fund......$15,000,000** | **Reserve Liability of Prop'rs.$15,000,000** |

COURT OF DIRECTORS:

G. BALLOCH, Esq.
Chairman.
R. SHEWAN, Esq.
Deputy Chairman.
F. H. ARMSTRONG, Esq.
G. FRIESLAND, Esq.
HON. MR. HENRY KESWICK.
C. R. LENZMANN, Esq.
S. A. LEVY, Esq.
F. LIEB, Esq.
G. H. MEDHURST, Esq.
W. LOGAN, Esq.
H. A. SIEBS, Esq.
ANDREW FORBES, Esq.

Head Office, Hongkong and Shanghai Banking Corporation, Hongkong

BRANCHES AND AGENCIES:

| | |
|---|---|
| AMOY | LONDON |
| BANGKOK | LYONS |
| BATAVIA | MALACCA |
| BOMBAY | MANILA |
| CALCUTTA | NAGASAKI |
| CANTON | NEW YORK |
| COLOMBO | PEKING |
| FOOCHOW | PENANG |
| HAMBURG | RANGOON |
| HANKOW | SAIGON |
| HONGKEW (SHANGHAI) | S. FRANCISCO |
| | SHANGHAI |
| HONG-KONG | SINGAPORE |
| IPOH | SOURABAYA |
| JOHORE | TIENTSIN |
| KOBE | YLOILO |
| KUALA LUMPUR | YOKOHAMA |

CORRESPONDENTS—In Samar and Leyte: WARNER, BARNES & CO., LTD.
CORRESPONDENTS—In Cebu: KER & CO.
LONDON OFFICE—31 Lombard St.
LONDON BANKERS—London & County Banking Co., Ltd.

*Interest Allowed on Fixed Deposits at Rates which may be Learned on Application. Credit Granted on Approved Securities and Every Description of Banking and Exchange Business Transacted. Drafts Granted on London and the Chief Commercial Places in Europe, India, Australia, America, China and Japan.*

**J. R. M. SMITH, Chief-Manager - - - HONGKONG** **A. M. REITH, Acting Manager - - - MANILA**

WADE GARDNER, Agent, 50 Wall Street, New York.
W. H. HARRIES, Agent, 401 Montgomery Street, San Francisco

# INTERNATIONAL BANKING CORPORATION

**HEAD OFFICE, 60 WALL STREET, NEW YORK**

**LONDON OFFICE, THREADNEEDLE HOUSE, BISHOPSGATE STREET, WITHIN, E. C.**

**CAPITAL PAID UP AND SURPLUS, $6,500,000.00 UNITED STATES CURRENCY**

**THOMAS H. HUBBARD, President** **JAMES S. FEARON, Vice-President**

## BRANCHES

| | | |
|---|---|---|
| Bombay | Empire, C. Z. | Peking |
| Calcutta | Hankow | San Francisco |
| Canton | Kobe | Shanghai |
| Cebu | Manila | Singapore |
| Colon | Panama | Washington, D. C. |
| City of Mexico | | Yokohama |

AGENCIES AND CORRESPONDENTS IN ALL PRINCIPAL CITIES OF THE WORLD
DESIGNATED DEPOSITORY FOR THE FUNDS OF THE GOVERNMENT OF THE PHILIPPINE ISLANDS
AND FOR THE FUNDS OF THE GOVERNMENT OF THE CANAL ZONE
GENERAL FOREIGN BUSINESS TRANSACTED
COMMERCIAL AND TRAVELLERS' LETTERS OF CREDIT ISSUED
BILLS OF EXCHANGE AND CABLE TRANSFERS BOUGHT & SOLD

# THE YOKOHAMA SPECIE BANK Ltd.

**Capital (Paid-up): Yen 24,000,000** **Reserved Fund: Yen 15,900,000**

**HEAD OFFICE YOKOHAMA**

**PRESIDENT**

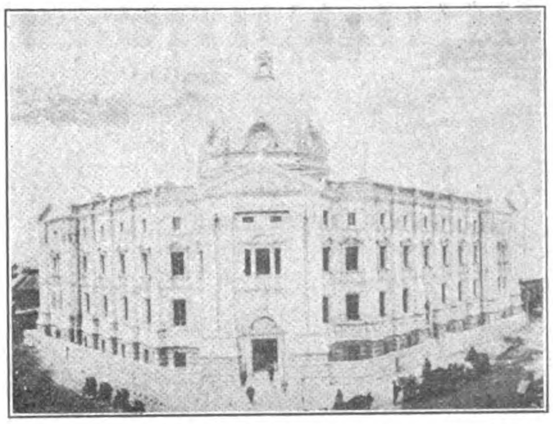
Baron Korekiyo Takahashi

**DIRECTORS**

Nagatane Soma, Esq.
Riemon Kimura, Esq.
Ippei Wakao, Esq.
Masunosuke Odagiri, Esq.
Tchunosuke Kawashima, Esq.
Kokichi Sonoda, Esq.
Rokuro Hara, Esq.
Yuki Yamakawa, Esq.
Viscount Yataro Mishima
Hyokichi Bekkey, Esq.

**GENERAL MANAGER**

Yuki Yamakaya, Esq.



HEAD OFFICE OF THE YOKOHAMA SPECIE BANK, YOKOHAMA

**HEAD OFFICE**

Every description of Banking business transacted.

For particulars, apply to the Manager.

Certified cheques on this Bank will be taken by the Custom House as cash in payment of duty.

Special Safe Deposit Boxes are provided in the Vault of the Bank.

T. Kawashima, Manager

Yokohama, September, 1909.

**BRANCHES AND AGENCIES:**

| | | | | | |
|---|---|---|---|---|---|
| Tokyo | Hankow | Osaka | Newchwang | Lyons | Ryojun (Port Arthur) |
| Nagasaki | Peking | London | Liaoyang | Honolulu | Fengtien (Mukden) |
| New York | Dairen (Dalny) | San Francisco | Antung-Hsien | Shanghai | Changchun |
| Bombay | Tiehling | Hongkong | Kobe | Tientsin | |

Correspondents at all the chief commercial cities in the world.

**LONDON BANKERS:**

*Parr's Bank, Ltd.*
*Union of London & Smith's Bank, Ltd.*
*London Joint Stock Bank, Ltd.*

# RUSSO-CHINESE BANK

**Organized under Imperial Decree 10th December, 1895**

| | |
|---|---|
| Capital ................ | Rbs. 15,000,000 / Sh.Tls. 2,000,000 |
| Capital contributed by Chinese Government | K. Taels 5,000,000 |
| Reserve Fund ........ | Roubles 5,612,000 |

Head Office: St. PETERSBURG.
London Office: 41 THREADNEEDLE ST. E. C.

BRANCHES AND AGENCIES:

| | | |
|---|---|---|
| *Andijan* | *Khabarovsk* | *Paris* |
| *Armavir* | *Khokand* | *Peking* |
| *Askhabad* | *Kiachta* | *Samarkand* |
| *Barnaoul* | *Kouldja* | *San Francisco* |
| *Batoum* | *Krasnoiarsk* | *Semipalatinsk* |
| *Blagowestchensk* | *Kuanchendzel* | *Shanghai* |
| *Bombay* | *London* | *Stretensk* |
| *Boukhara* | *Marguelan* | *Tatarskala* |
| *Busk* | *Merw* | *Tashkend* |
| *Calcutta* | *Moscow* | *Tchita* |
| *Chefoo* | *Namangan* | *Tchougoutchak* |
| *Colombo* | *Newchwang* | *Tientsin* |
| *Hailar* | *New York* | *Tsitsikar* |
| *Hankow* | *Nicolaievsk o/Amoor* | *Verchneoudinsk* |
| *Harbin* | *Nicolsk-Oussourisk* | *Verny* |
| *Hongkong* | *Nijni-Novgorod* | *Vladivostock* |
| *Irkutsk* | *Novo-Nicolaievsk* | *Yakoutsk* |
| *Karachi* | *Novo-Ourguentch* | *Yokohama* |
| *Kashgar* | *Oust-Tcharychsk-Pristane* | |
| *Kerki* | | |

Tel. Address: SINORUSSE, SHANGHAI.

**Bankers**

**London—Messrs. Glyn, Mills, Currie & Co.**
**Paris—Comptoir National d'Escompte de Paris, Banque de Paris et des Pays Bas**
**Berlin—Messrs. Mendelssohn & Co.**
**Hamburg—Messrs. M. M. Warburg & Co.**
**Vienna—K. K. priv. Oesterr. Credit Anstalt fur Handel & Gewerbs.**
**Amsterdam—Messrs. Lippmann, Rosenthal & Co.**

Interest allowed on Current Accounts in Taels at the rate of 2 per cent. per annum on the daily balance.

Fixed Deposits in Taels and Dollars Terms on application.

Local Bills discounted. Special facilities for Russian Exchange. Foreign Exchange on the principal cities of the world bought and sold.

**H. [illegible]BERT, L. JEZIERSKI, Managers for China & Japan.**

# Deutsche-Asiatische Bank Shanghai

**Berlin, Calcutta, Hankow, Hamburg, Hongkong, Peking, Tientsin, Tsinanfu, Tsintau, Yokohama, Kobe, Singapore.**

**PAID-UP CAPITAL .................... SH. TLS. 7,500,000**

*Founded in 1889 by the following Banks and Bankers:*

Koenigliche Seehandlung (Preussische Staatsbank), Berlin.
Direction der Disconto-Gesellschaft, Berlin.
Deutsche Bank, Berlin.
S. Bleichroder, Berlin.
Berliner Handels-Gesellschaft, Berlin.
Bank fur Handel & Industrie, Berlin.
Robert Warschauer & Co., Berlin.
Mendelssohn & Co., Berlin.
M. A. von Rothschild & Sohne, Frankfurt o|M.
Jacob S. H. Stern, Frankfurt o|M.
Norddeutsche Bank in Hamburg.
Sal. Oppenheim jun. & Co., Cologne.
Bayerische Hypotheken & Wescheel Bank, Munich.

*London Bankers:*

Messrs. N. M. Rothschild & Son.
Union of London & Smith's Bank, Ld.
Deutsche Bank (Berlin), London Agcy.
Direction der Disconto-Gesellschaft.

*New York Agents:*

Schulz & Ruckgaber, 15 William Street

Every Description of Banking and Exchange Business Transacted.
Interest allowed on Current Accounts at 2 per cent per annum on the daily balance. Current accounts kept in taels and dollars.
Interest allowed on Fixed Deposits according to arrangement.
Local Bills discounted.
Every description of Banking and Exchange Business transacted.

R. Timmerscheidt, *Manager*,
Shanghai.

# A NEW EL DORADO

## The Philippine Islands

*A Virgin Field Awaiting The Investor. Rich in Minerals, Hardwoods, and Agricultural Products*

Gold Production Increased 150% last year
Coal and Oil Fields Being Developed
Vast Deposits of Copper and Iron

**40,000,000 Acres of the Finest Hardwoods on Earth**

**We Raise** Hemp, Copra, Rubber, Tapioca, Sugar, Tobacco, Coffee, Maguey, and all other Products of Tropical Climes

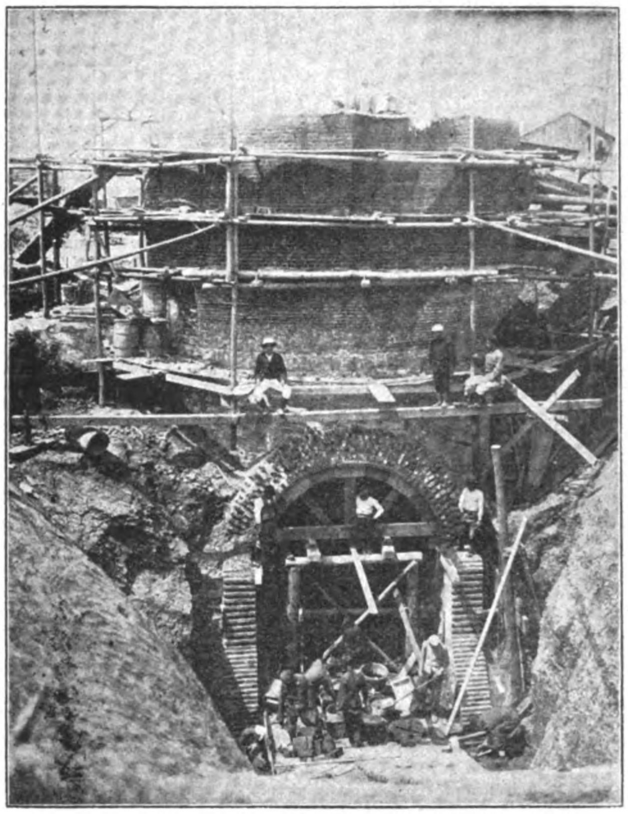
*No Other Land on Earth Offers a More Inviting Field for Capital*

**Write to the Publicity Committee**

THE MANILA MERCHANTS' ASSOCIATION

FOR INFORMATION

# FUSHUN COAL



SINKING SHAFT AT OYAMA PIT, FUSHUN COLLIERY.

## The Best Steaming Coal in the Far East

### Output 3,000 tons per day

Fresh stocks always on hand at Dairen, Newchwang & Tientsin Depots and also at Chefoo, Shanghai, Hongkong, Singapore and Penang.

MINING DEPARTMENT,

## South Manchuria Railway Company

DAIREN

Tel. Add. "Mantetsu," Codes: A.B.C. 5th Ed, A 1 & Lieber's

Agents: MITSUI & COMPANY

TELEPHONE 1108.

TELEGRAPHIC ADDRESS: "HARDWARE, SHANGHAI."

HEATING, LIGHTING AND SANITARY ENGINEERS.

# GORDON & COMPANY

110 SZECHUEN ROAD, SHANGHAI

STEAM OR HOT WATER HEATING PLANTS

AGENTS FOR THE CARRON COMPANY OF FALKIRK, SCOTLAND

STOVES AND FIRE GRATES

MODERN BATH-ROOM LUXURIES

HOT AND COLD WATER AND SANITARY FITTINGS

OUTPORT WORK A SPECIALTY

# SAN MIGUEL BREWERY

MANILA, P. I.

*The Largest and Most Modern* **Brewery**

IN THE FAR EAST

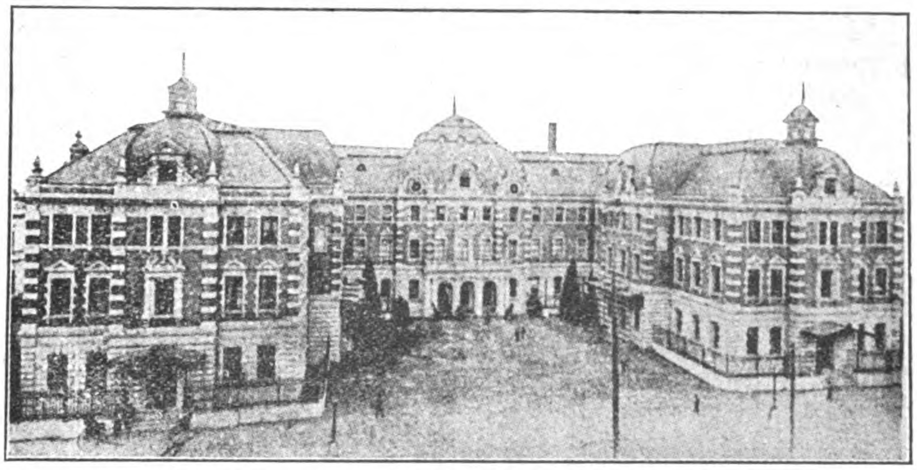
*Get into the Habit of Asking for* **San Miguel**

IT IS ABSOLUTELY PURE

Containing No Trace of Injurious Chemicals

General Telegraphic Address: "MITSUI"

A B C, 5th edition and A1 Codes used



THE MITSUI BUILDING, TOKIO,
Containing the offices of the Mitsui Family Council, The Mitsui Mining Co., The Mitsui Bank, and The Mitsui Bussan Kaisha

# THE MITSUI BUSSAN KAISHA

## (MITSUI & CO. IN EUROPE AND AMERICA)

## HEAD OFFICE: Surugacho, Tokio, Japan

**President:** HACHIROJIRO MITSUI, Esq.

**Directors:** SENJIRO WATANABE, Esq.; GIICHI IIDA, Esq.; SANKICHI KOMURO, Esq; KENZO IWAHARA, Esq.; JOTARO YAMAMOTO, Esq.

**Home Branch Offices:** YOKOHAMA, MOJI, KUCHINOTSU, NAGOYA, WAKAMATSU, MIIKE, OSAKA, KARATSU, TAIPEH, KOBE, NAGASAKI.

**Branch Offices in Asia:** TIENTSIN, NEWCHWANG, SHANGHAI, BOMBAY, SINGAPORE.

**London Branch Office:** MITSUI & Co., Lime Street.

**New York Branch Office:** MITSUI & Co., 445 Broome Street.

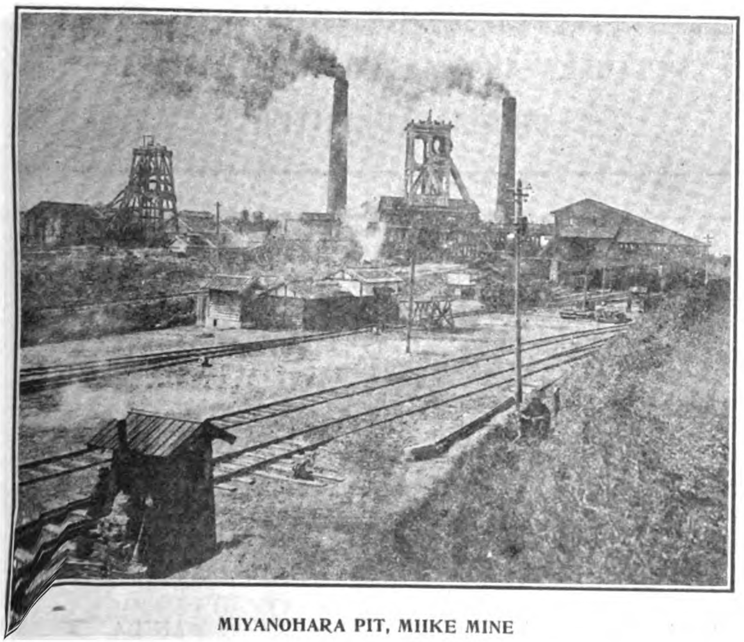
**Agents:** HAMBURG, CANTON, CALCUTTA, BANGKOK, FOOCHOW, HARBIN, SAN FRANCISCO, AMOY, DAIREN, TSINGTAU, SAIGON, SOURABAYA, HANKOW, SEOUL, ANTUNG, SYDNEY, MANILA, CHEFOO, CHEMULPO, RANGOON, VLADIVOSTOCK, ETC.

## IMPORT, EXPORT AND COMMISSION MERCHANTS

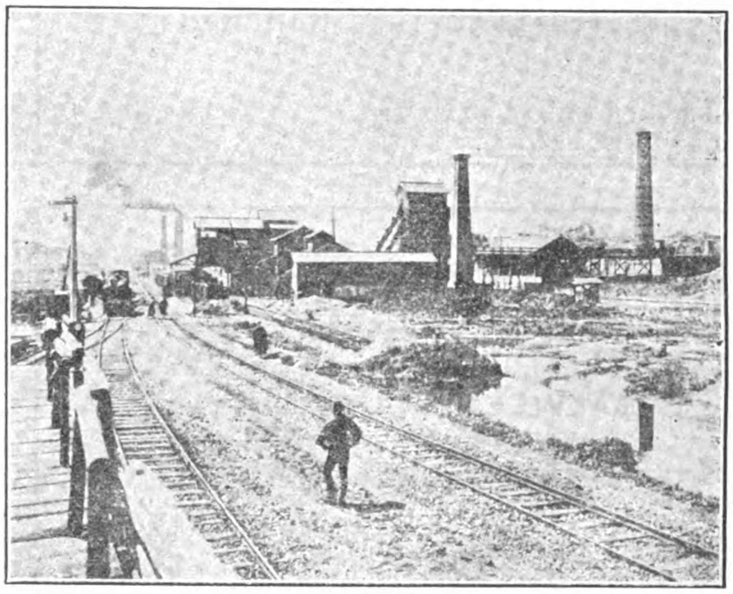
**CONTRACTORS OF COAL** to the Imperial Japanese Navy and Arsenals, the State Railways, Principal Railway Companies, Industrial Works, the United States Army Transport Service, and Home and Foreign Mail and Freight steamers.

**SOLE PROPRIETORS** of the famous Miike, Tagawa, Yamano and Ida Coal Mines, and Sole Agents for Hondo, Kanada, Kishima, Mameda, Mannoura, Ohnoura, Ohtsuji, Sasahara, Tohmiyama, Tsubakuro, Yoshio, Yunokibara, Takae, Fushun and other Coals.

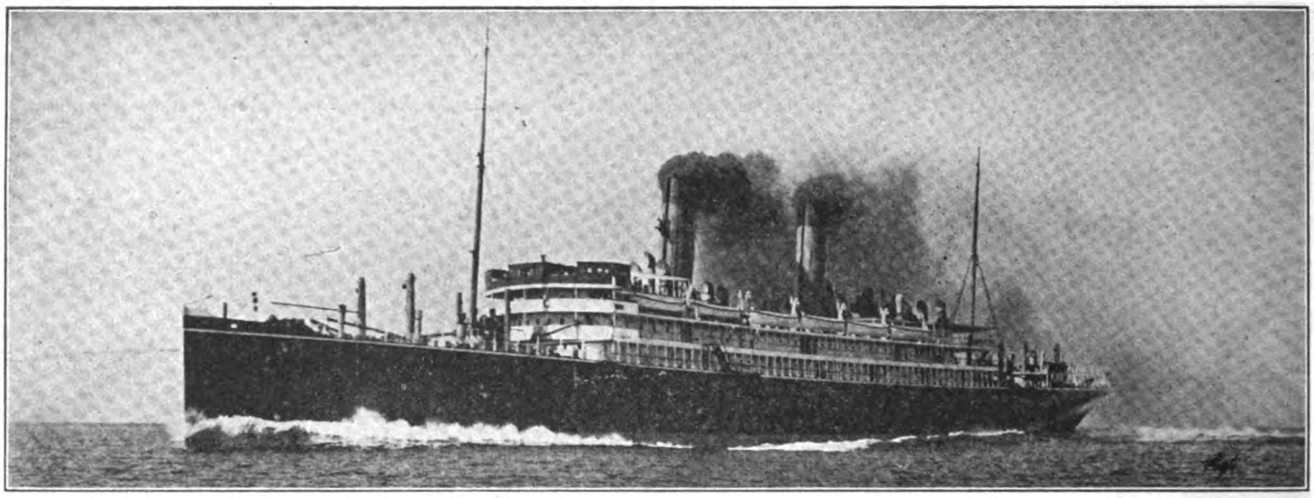
**IMPORTERS AND EXPORTERS** of Cotton, Cotton Yarn, Cotton Piece Goods, Book-binding Cloth, Copper, Silver, Tin, Lead and other Metals, Railway Materials, Acids, Camphor, Flour, Cereals, Manure, Opium, Isinglass, Mushrooms, Sugar, Wax, Vermicelli, Sulphur, Hemp, Beer, Cement, Cigarettes, Matches, Paper, Hides, Leather Belts, Teak and other Timbers, Machinery, etc.



MIYANOHARA PIT, MIIKE MINE



WASHING PLANT, MIIKE MINE



S. S. "CHIYO-MARU"

TRANS-PACIFIC TURBINE DRIVEN PASSENGER STEAMER "CHIYO-MARU" FOR T. K. K.—Built and engined by the Mitsu Bishi Dockyard and Engine Works, Nagasaki, November 1908 —Length (overall), 570 feet 0"; Breadth, moulded, 63 feet 0"; Depth (shelter deck), 46 feet 6"; Gross tonnage, 13,426 tons; Displacement, 18,725 tons; Engines, Parsons' Three Shaft Arrangement; Boilers, Single Ended Scotch Boilers (13); I. H. P., 19 591; Speed, 21 knots. (This photo was taken on her full speed trials the 13th October, 1908.)

# MITSU BISHI DOCKYARDS & ENGINE WORKS, NAGASAKI

| DOCK NO. 1. | | | DOCK NO. 2. | | | DOCK NO. 3. | | |
|---|---|---|---|---|---|---|---|---|
| EXTREME LENGTH . . . . . . | 523 | FT. | EXTREME LENGTH . . . . . . | 371 | FT. | EXTREME LENGTH . . . . . . | 722 | FT. |
| LENGTH ON BLOCKS . . . . . . | 513 | „ | LENGTH ON BLOCKS . . . . . | 360 | „ | LENGTH ON BLOCKS . . . . . | 714 | „ |
| WIDTH OF ENTRANCE ON TOP . . | 88 | „ | WIDTH OF ENTRANCE ON TOP . . | 66 | „ | WIDTH OF ENTRANCE, TOP . . . | 99½ | „ |
| „ „ „ „ BOTTOM . | 77 | „ | „ „ „ „ BOTTOM . | 53 | „ | „ „ „ BOTTOM . | 88½ | „ |
| WATER ON BLOCKS AT SPRING TIDE | 26½ | „ | WATER ON BLOCKS AT SPRING TIDE | 22 | „ | WATER ON BLOCKS AT SPRING TIDE | 34½ | „ |

## THE BEST EQUIPPED SHIPBUILDING PLANT IN THE FAR EAST,

WITH SPECIAL FACILITIES FOR HANDLING THE HEAVIEST CASTINGS AND THE REPAIRING OR BUILDING OF SHIPS, ENGINES AND BOILERS, ALSO ELECTRICAL WORK.

LARGE STOCK OF MATERIAL, AND FITTINGS ALWAYS ON HAND

THE POWERFUL SALVAGE STEAMER "OURA-MARU" (712 TONS, 700 I. H. P.) EQUIPPED WITH NECESSARY PUMPS AND GEAR, IS ALWAYS READY AT SHORT NOTICE.

## EASTERN ENGINEERING COMPANY

ARCHITECTS AND ENGINEERS

Special attention paid to Reinforced Concrete Designing : : : : : :

**Correspondence Solicited**

Rooms 10 and 11 LACK & DAVIS Bldg. Manila, P. I.

## THE WEN MING PRESS

88 HONAN ROAD, SHANGHAI

HIGH GRADE HALF TONES, ZINC ETCHINGS, ETC.

TYPE FOUNDRY, PRINTERS AND LITHOGRAPHERS

ALL WORK DONE

SKILFULLY AND AT MODERATE PRICES.

ORDERS SOLICITED

## HOTELS

WHERE TO LIVE AT MANDALAY

UPPER BURMA

SALWEEN HOUSE
AND
TENASSERIM HOUSE

Entire satisfaction guaranteed, as the numerous testimonials from both residents and tourists testify.

TELEGRAPHIC ADDRESS: "SALWEEN"

P. O. Box 194

## C. S. NICHOLSON

GENERAL BROKER

9 P. MORAGA. MANILA, P. I.

# THE KAWASAKI DOCKYARD CO., LTD.

## DAIREN

Cable Address: "DOCK," Dairen
Codes: AI and A. B. C. 5th Ed.

**PAID UP CAPITAL: -Y-10,000,000**

THE DAIREN BRANCH has a DRY DOCK and fully equipped MACHINE and TOOL SHOPS, an IRON & BRASS FOUNDRY and other Auxiliary Works. It undertakes general CASTING WORK and the construction and repair of all kinds of VESSELS, BOILERS, ENGINES and other MACHINERY.

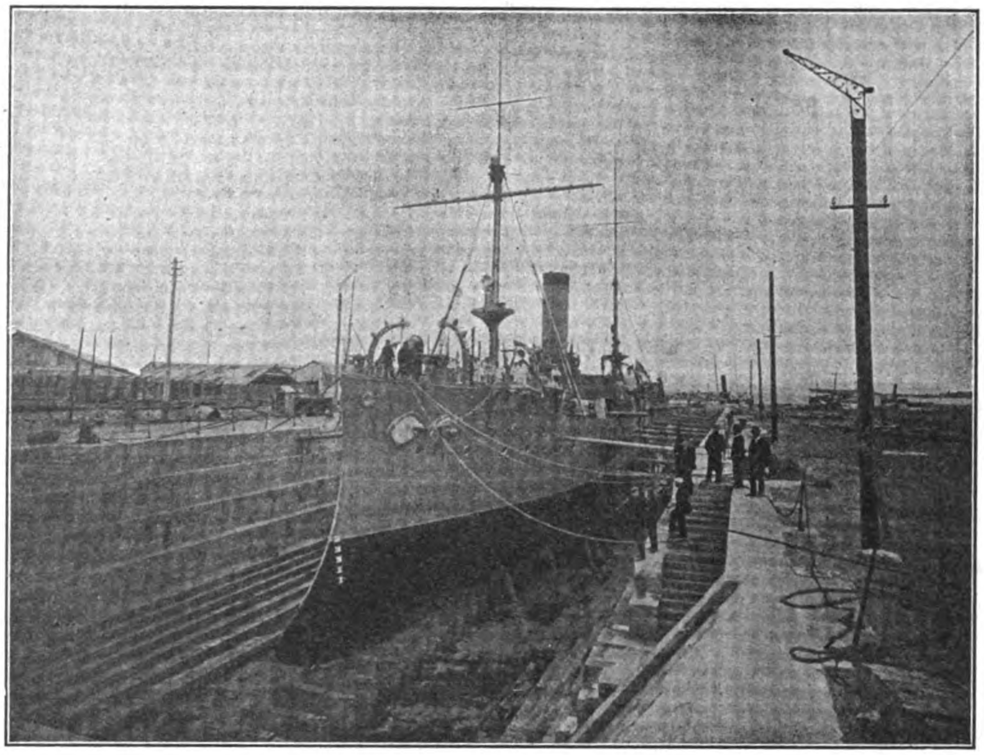
Powerful Salvage & Towing Boats will be supplied at Shortest Notice.

All work guaranteed to be of the highest order and to be of the most up-to-date improvements. All orders immediately attended to.

**DOCK**

| | |
|---|---|
| Length | 380 ft. |
| Width | 50 ft. |
| Depth over Sill | 20 ft. |

**DOCKING CHARGES VERY MODERATE**



GRANITE DRY DOCK, DAIREN

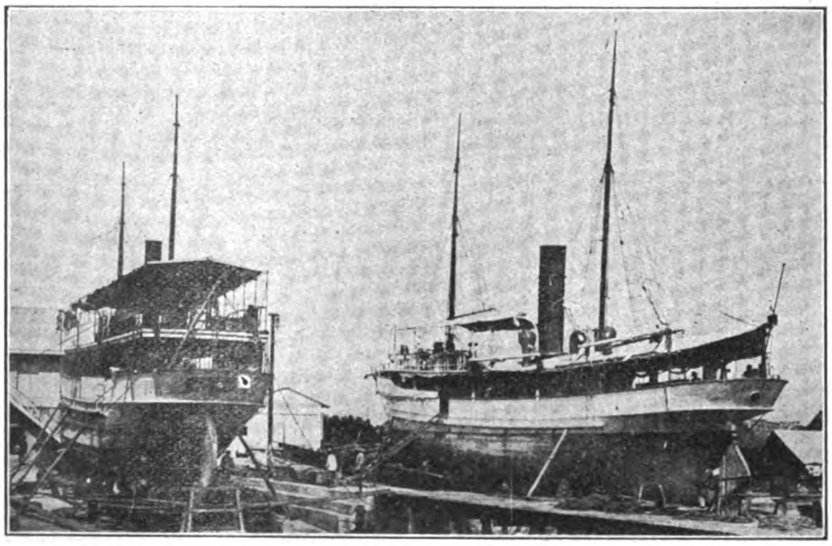
# MANUEL EARNSHAW & CO., LTD.

## MARINE ENGINEERS

15 BARCELONA ST., MANILA

REPAIRS TO SHIPS,
BOILERS,
ENGINES, ETC.

LAUNCH BUILDERS,
FOUNDERS IN IRON,
BRASS, ETC.



MARINE SLIPWAY

**P. O. BOX NO. 282**

**TELEPHONE 213**

Telegraphic Address:
"MEARNSHAW" MANILA

Codes:
A. B. C., 5th Edition
Engineering Telegraph Code
and Supplement; Western
Union

FOUNDRY AT
REINA REGENTE

SLIPWAY AT
CAVITE

# KIANGNAN
# DOCK AND ENGINEERING WORKS

**Directors:**

**ADMIRAL SAH**
IMPERIAL CHINESE NAVY

**KWONG KWOH WAH**
TAOTAI

**Manager:**

**R. B. MAUCHAN**

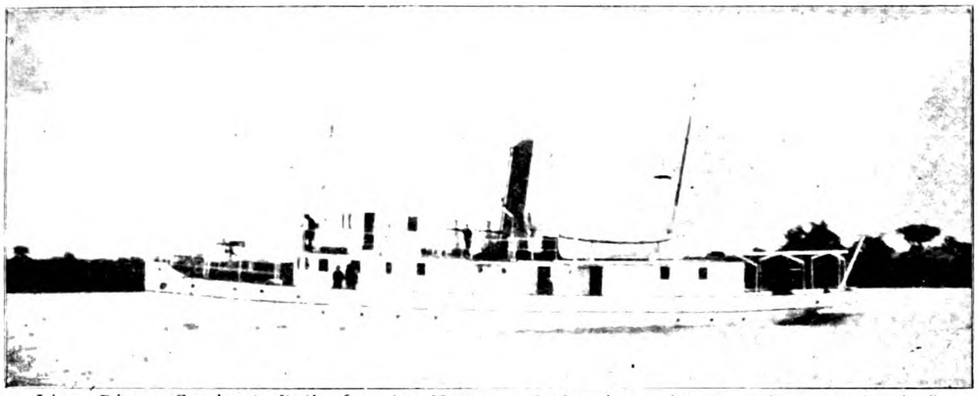
## KIANGNAN DOCK

Length over all, 385′; length on blocks, 375′; water on sill, 19′; dock entrance, top, 70′, bottom, 60′.

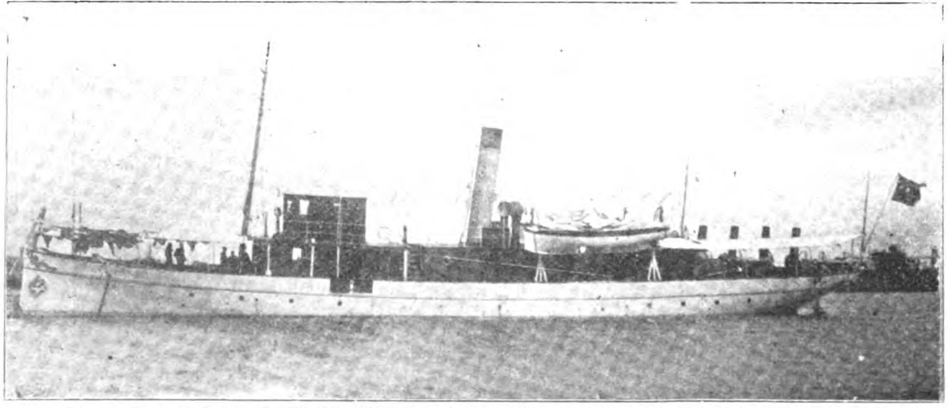
The dock accommodates the largest coasting steamers and is equipped with complete modern facilities for handling work thoroughly and promptly.

The new machine and boiler shops, and the foundry and shipbuilding plant are equal to any this side of Suez.

Yangtsze River Pirate Chaser, Built by the Kiangnan Dock & Engineering Works for the Viceroy of Nanking



Liao River Gunboat Built for the Viceroy of Manchuria by the Kiangnan Dock & Engineering Works



River Patrol Boat Built for the Szechuan Viceroy by the Kiangnan Dock and Engineering Works

Cable Address:

**"SINODOCK"**

Codes:

**A. B. C. 5TH EDITION, ENGINEERING, LIEBER'S, STANDARD**

**CONTRACTORS FOR REPAIRING, DOCKING AND REFITTING THE VESSELS OF THE IMPERIAL CHINESE NAVY AND THE IMPERIAL MARITIME CUSTOMS**

Patent slipway for small steamers and launches. Complete boat and launch building shops.

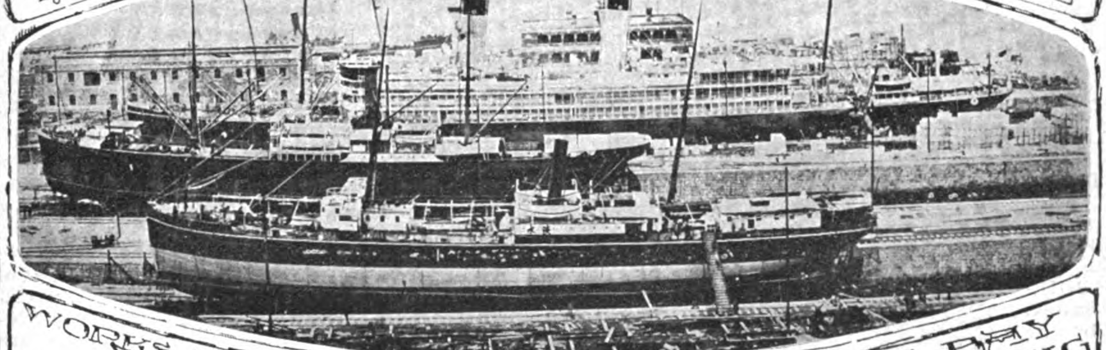
# TAIKOO DOCKYARD & ENGINEERING Co. OF HONGKONG LTD

Engineers, Boilermakers, Repairers

WORKS COVER AN AREA OF 53 ACRES

DRY DOCK 787 FT. × 88 FT. DEPTH 34½ FT.

SLIPWAYS
NO. 1 1030 FT.
NO. 2 993½ FT.
NO. 3 993½ FT.



Telegrams Temseloaf London Taikoodock Hongkong

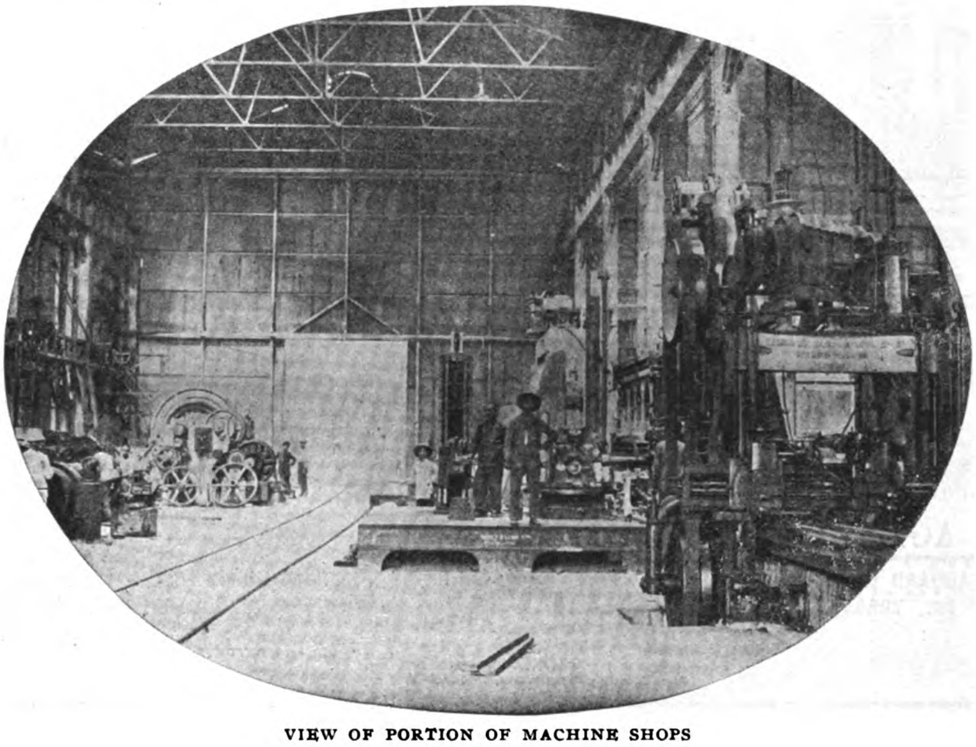
WORKS & GENERAL OFFICES QUARRY BAY HONGKONG

Builders OF PASSENGER AND CARGO STEAMERS, TURBINE STEAMERS, STEAM YACHTS, ALL TYPES OF WAR VESSELS STEAM LAUNCHES MOTOR BOATS TUGS AND LIGHTERS

A SECTION OF THE YARD SHEWING TURBINE STEAMSHIP "CHIYO MARU" 13,600 TONS IN DRY-DOCK, TWO COASTING STEAMERS ON SLIPWAYS, AND VESSEL LYING ALONGSIDE THE SEAWALL

## THE BUILDING YARD IS LAID OUT WITH FURNACES AND PLANT SUITABLE FOR BUILDING VESSELS UP TO 20,000 TONS

GENERAL MANAGERS
**John Swire & Sons**
8 BILLITER SQUARE, LONDON



VIEW OF PORTION OF MACHINE SHOPS

AGENTS IN HONGKONG, CHINA AND JAPAN
**Butterfield & Swire**

THE POWER FOR THE ESTABLISHMENT is generated by Gas Producers, on the Mond System, supplying 4 Cockerill Gas Engines of 3,000 collective horse power, driving Electrical Generators, and is transmitted throughout the Works by means of Electrical Motors.

AN ELECTRIC DERRICK CRANE capable of lifting weights up to 100 tons, is erected on the Sea Wall, and 14 Electric Overhead Travelling Cranes ranging from 5 tons to 100 tons, are fitted throughout the Workshops.

AGENTS IN MANILA AND PHILIPPINE ISLANDS

**CASTLE BROS.-WOLF & SONS**

THE DOCK PUMPS consist of 2 sets of Centrifugal, Electrically driven, pumps, together capable of emptying the Dock with 35 feet of water on the Sill in 2¾ hours.

THE MACHINERY in the Engine Works is laid out for dealing with the heaviest classes of Engines.

THE SLIPWAY CARRIAGES are of the latest pattern by Morton of Leith, and the Winding Gear consists of large electrically driven winches operating massive wire cables.

TENDERS SUBMITTED AND ESTIMATES GIVEN FOR BUILDING AND REPAIRING ALL CLASSES OF VESSELS; ALSO FOR EVERY DESCRIPTION OF ENGINE AND BOILER, MECHANICAL, ELECTRICAL AND CONSTRUCTIONAL WORK

# HONGKONG & WHAMPOA DOCK CO., LTD.

## HONGKONG

Telegraphic Address: **Manifesto Hongkong**
Dock Owners, Ship Builders, Marine and Land Engineers, Boiler Makers, Iron and Brass Founders, Forge Masters, Electricians.

All classes of CONSTRUCTIONAL and GENERAL ENGINEERING WORK undertaken, also LOCOMOTIVES, RAILWAY ROLLINGSTOCK and PLANT, BRIDGES, etc.

COAST and RIVER STEAMERS, TUG BOATS and LAUNCHES, SHALLOW DRAFT VESSELS and STERN WHEEL STEAMERS

AUXILIARY MACHINERY for MARINE and LAND Purposes.

LAND and MARINE BOILERS of all sizes and classes.

GALVANIZING by the Electrical process.

IRON and BRASS CASTINGS of all descriptions.

FORGINGS in IRON and STEEL for SHIPS, ENGINES, and LAND WORK, large and small.

We make a specialty of HIGH SPEED MOTOR BOATS for PASSENGER and CARGO Traffic.

ALL CLASSES of COCKS, VALVES and FITTINGS in IRON and BRASS supplied.

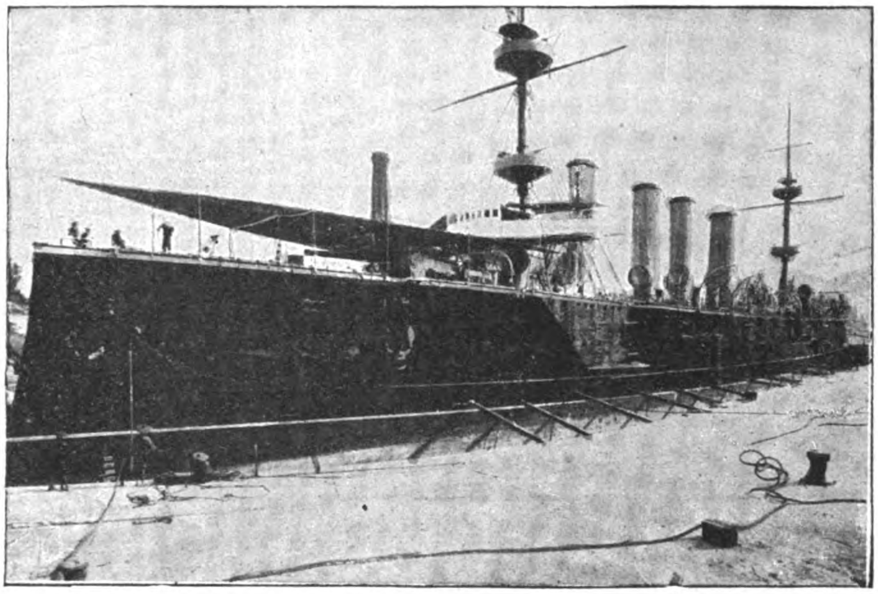
BOLTS, NUTS and RIVETS MANUFACTURED at SHORT NOTICE.

FINISHED NUTS in BRASS and IRON.

A LARGE STOCK of STEEL and IRON PLATES, BARS and ANGLES, always in hand.

The Company possesses SIX GRANITE DOCKS and TWO PATENT SLIPWAYS and these are equipped for EXPEDITIOUS WORK. Our plant is of the most modern type throughout.

Ship Owners and Captains are assured that DOCKING and REPAIRS are carried out PROMPTLY and at MODERATE CHARGES.



H. M. S POWERFUL IN NO. 1 DOCK, KOWLOON.

The Dimensions of Docks and Slips are as follows:—

| *Name of Dock or Slip* | *Length on Keel Blocks* | *Entrance Breadth* | *Depth Over Sill at Ordinary Spring Tides* | *Rise of Tide* | |
|---|---|---|---|---|---|
| | | | | *Springs* | *Neaps* |
| **KOWLOON** | *Feet* | *Feet* | *Feet* | *Feet* | *Feet* |
| No. 1 Dock, Kowloon......... | 700 | 86 ft. top / 70 ft. bottom | 30′ | 7′ 6″ | 3 |
| No. 2 Dock, Kowloon ....... | 371 | 74′ | 18′ 6″ | 7′ 6″ | — |
| No. 3 Dock, Kowloon. ....... | 264 | 49′ 3″ | 14′ | 7′ 6″ | — |
| Patent Slip, No. 1, Kowloon... | 240 | 60′ | 14′ | 7′ 6″ | — |
| Patent Slip, No 2, Kowloon... | 220 | 60′ | 12′ | 7′ 6″ | — |
| **TAI-KOK-TSUI** | | | | | |
| Cosmopolitan Dock........... | 466 | 85′ 6″ | 20′ | 7′ 6′ | — |
| **ABERDEEN** | | | | | |
| Hope Dock .................. | 430 | 84′ | 23′ | 7′ 6″ | — |
| Lamont Dock................. | 333 | 64′ | 16′ | 7′ 6″ | — |

Please Address Enquiries to the Chief Manager, R. M. DYER, B. Sc., M. I. N. A., Kowloon Dock, Hongkong

Telephone No. 13 K. Head Office, Kowloon.

Town Office, Queen's Buildings Telephone No. 20, Hongkong

## FINDLAY & CO.

### AGENTS, MANILA, P. I.



# W. F. STEVENSON & CO., LTD.

ILOILO MANILA CEBU

MERCHANTS

STEAMSHIP AGENCIES

**PENINSULAR AND ORIENTAL STEAM NAVIGATION CO., OSAKA SHOSEN KAISHA (IN CONNECTION WITH THE CHICAGO MILWAUKEE & ST. PAUL AND THE CHICAGO MILWAUKEE AND PUGET SOUND RAILWAYS), "BEN" LINE OF STEAMERS, "INDRA" LINE OF STEAMERS.**

INSURANCE AGENCIES

**LIFE, STANDARD LIFE ASSURANCE CO.—FIRE, NORWICH UNION FIRE INSURANCE SOCIETY LTD., SCOTTISH UNION & NATIONAL INSURANCE CO., YORKSHIRE INSURANCE CO., LTD.—MARINE, MARINE INSURANCE CO. LTD., STANDARD MARINE INSURANCE CO. LTD.** : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :

**4 MUELLE DEL REY, MANILA, P. I.**



# Johnson-Pickett Rope Co.

PURE MANILA ROPE

MADE WITH LATEST IMPROVED ROPE MACHINERY

**Average Breaking Load After Three Tests:**

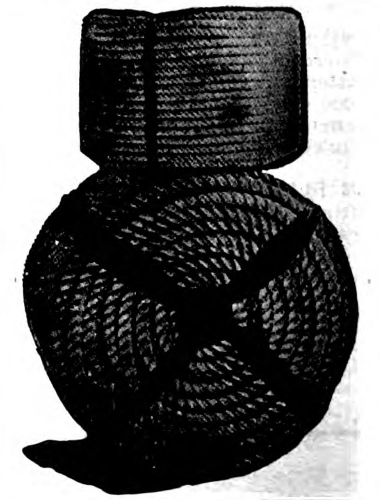
2 Inch Rope Circumference........ 4,037 Pounds
3½ " " " ........ 16,670 "
5 " " " ........ 23,728 "

Factory and Salesroom.
Cor. Vives and Lara, Murallon,
San Nicolas, Manila, P. I.

TELEPHONE
1123

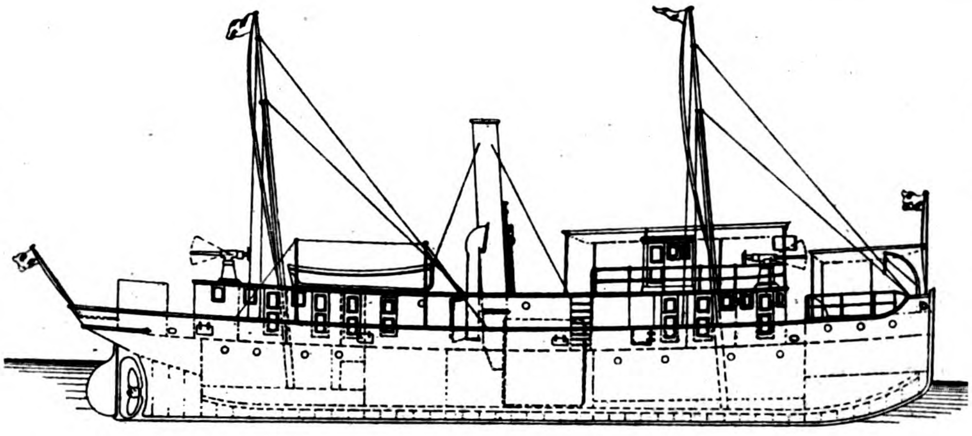
Cable Address: SANTAROPE
Code: Western Union, Universal Edition.

CORRESPONDENCE SOLICITED



ENGINEERS, MACHINISTS and FOUNDERS

SHIPBUILDERS, BOILERMAKERS ELECTRICIANS



I. C. M.'S GUNBOAT "KAI-HAI" BUILT BY THE NEW ENGINEERING AND SHIPBUILDING WORKS, LTD. SHANGHAI, FOR SERVICE IN NORTH CHINA: SPEED, 11 KNOTS.

COAST AND RIVER STEAMERS, TUGBOATS, LAUNCHES, LIGHTERS, PONTOONS, SHALLOW DRAFT SIDE OR STERN WHEEL STEAMERS. ENQUIRIES SOLICITED. PLANS, SPECIFICATIONS AND ESTIMATES FURNISHED. ALL CLASSES OF ENGINEERING WORK UNDERTAKEN

# THE NEW ENGINEERING AND SHIPBUILDING WORKS, LTD.

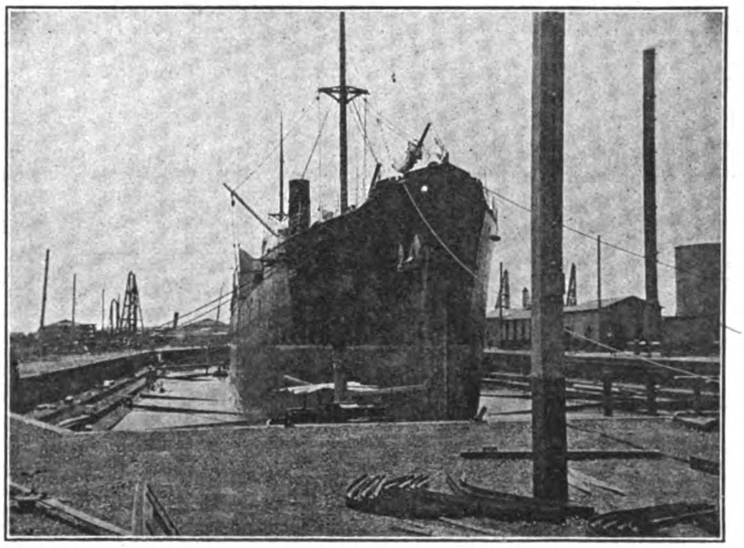
## SHANGHAI

PROPRIETORS OF THE

# YANGTSZEPOO DOCK

THE DOCK, WORKS AND OFFICE ARE LOCATED ON THE SHANGHAI SIDE OF THE RIVER, 15 MINUTES BY ELECTRIC TRAM FROM HEART OF THE CITY

THE WORKS ARE EQUIPPED WITH THE MOST MODERN MACHINERY, CAPABLE OF HANDLING THE LARGEST MARINE ENGINEERING WORK



VIEW OF YANGTSZEPOO DOCK

PARTICULARS OF DOCK
LENGTH ON BLOCKS 455'0"
" OVERALL - 469'0"
WIDTH, ENTRANCE 74'0"
" SILL - - 64'0"
DEPTH ON SILL, (H. W. O. S. TIDES) - - - 21'0"
DEPTH ON 3'6" BLOCKS (H. W. O. S. TIDES) 19'0"
PUMPS CAN EMPTY DOCK WITHOUT VESSEL IN, IN 3½ HOURS.
WORKSHOPS LOCATED AT HEAD OF DOCK

## OFFICE, DOCK & WORKS, 37 YANGTSZEPOO ROAD, SHANGHAI

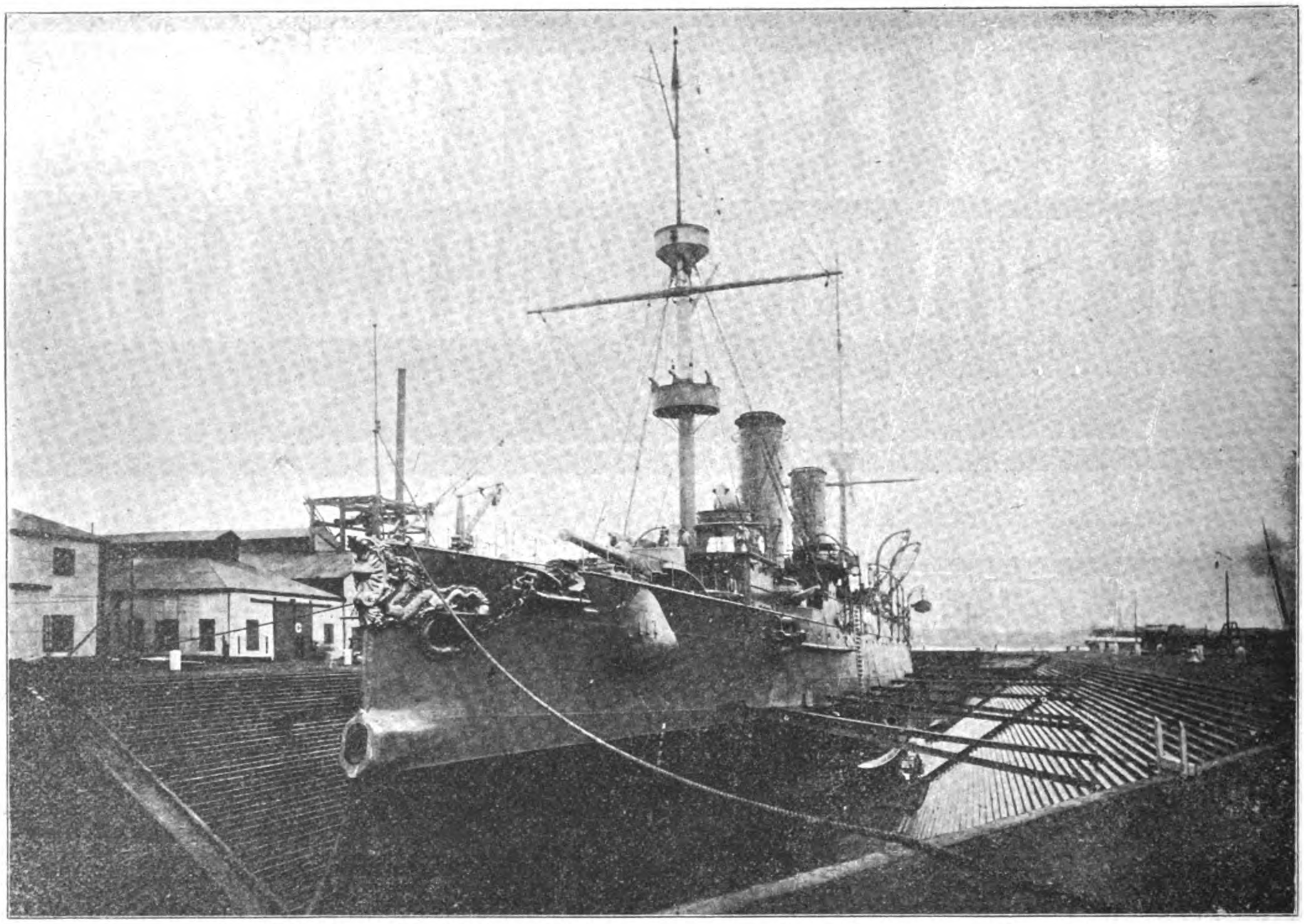
TELEGRAPHIC ADDRESS: "SPEEDY." CODE: A.B.C., 5TH EDITION — TELEPHONE 703. — MANILA AGENT, F. L. STRONG

# THE SHANGHAI DOCK AND ENGINEERING CO., LTD.

DOCK OWNERS ENGINEERS · SHANGHAI CHINA · SHIP BUILDERS FOUNDERS

Cable Address:
"FARNHAM," SHANGHAI

Codes Used:
A I. A B C (4th & 5th Editions)
Watkin's, Scott's, Western
Union and Engineering



The HAI-CHI in the "OLD DOCK" of the Shanghai Dock & Engineering Co., Ltd.

The Docks are five in number, ranging in length from 360 feet to 560 feet, and breadth of entrance from 57 feet to 82 feet, with the depth of water on the sill from 16 feet to 24 feet.

The Dock charges are very moderate.

The Water Frontage is about 1½ miles in length. Wharves and Pontoons are arranged where steamers can moor during repairs; and slips for hauling up small vessels are provided. Sheer legs capable of lifting 65 tons are placed at the various Docks.

The extensive Shipbuilding yards and workshops are provided with the latest improvements in tools, traveling cranes of 70 tons' capacity, hydraulic and pneumatic machinery.

Lit up by Electric light with railway lines through workshops and yards.

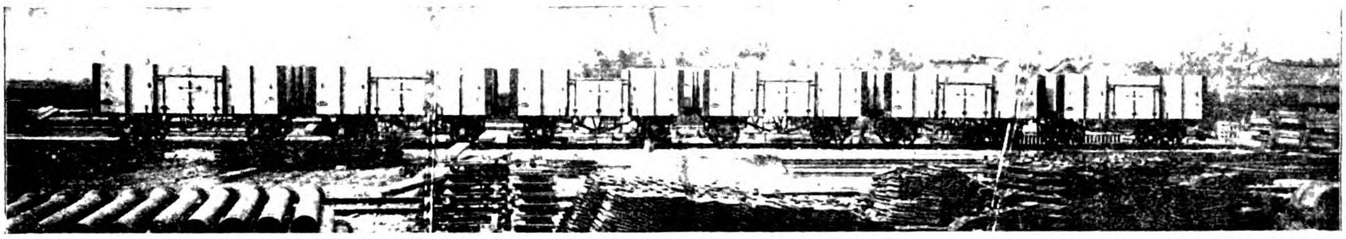
Powerful salvage appliances can be supplied at short notice. Enquiries immediately attended to.

Estimates given for all classes of work; Coast Steamers, Side and Stern-Wheelers, Tugboats, Launches, Steam Barges, Dredgers, Floating Cranes, and Lighters a speciality.

Every description of repairs and renewal work undertaken and expeditiously executed.

Land and Marine Engines and Boilers, Centrifugal, Mining, and other pumping machinery always in stock or in progress, also power driven Machine Tools, Engineer's Hand Tools, Steam, Gas, Oil, and Electric machinery and engineering accessories generally.

## CORRESPONDENCE INVITED



TYPE OF HIGH SIDE GOODS WAGONS

CONSTRUCTED BY THE VULCAN IRONWORKS, LTD., FOR THE NANKING CITY RAILWAY

# Railway Coaches and Goods Wagons Assembled Structural Steel Work Erected

ESTIMATES given for every description of Engineering and Constructional work and repairs, including supplying and installing of HOT WATER and STEAM HEATING in all its branches and HOT and COLD WATER SUPPLIES.

THE WORKS are electrically driven, and are equipped throughout with up-to-date machinery and labour saving devices, including an HYDRAULIC PLANT, and appliances to undertake constructing or repairing SHIPS, ENGINES, BOILERS, etc.

EXPERIENCED EUROPEAN STAFF SUPERVISES ALL BRANCHES OF WORK

# VULCAN IRONWORKS, Ltd.

ENGINEERS, SHIPBUILDERS, BOILERMAKERS, ELECTRICIANS, IRON AND BRASS FOUNDERS, ETC.

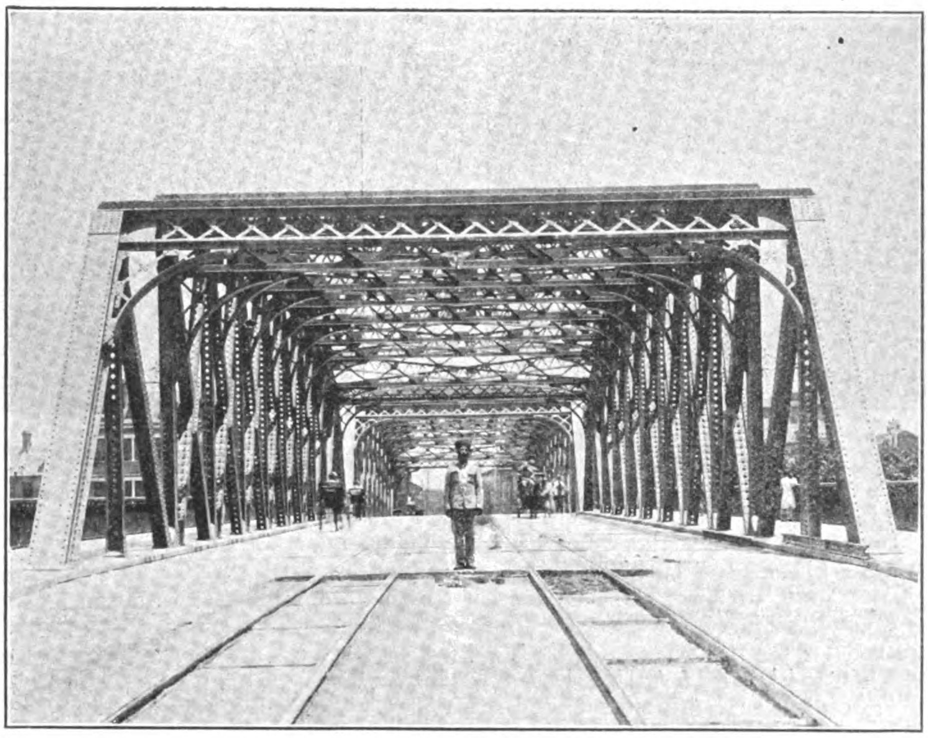
Office and Works: 45 YANGTSZEPOO ROAD, SHANGHAI

# PATTON'S IRONHIDE PAINT

A PROTECTIVE COATING FOR IRON AND STEEL

PREVENTS CORROSION CAUSED BY DAMPNESS, SULPHUROUS FUMES AND OTHER DELETERIOUS GASES

**Tough Elastic Durable**



THE RUSTLESS COATING FOR

STRUCTURAL IRON WORK, STEEL CARS, TRAIN SHEDS, IRON PARTS OF ROLLING STOCK

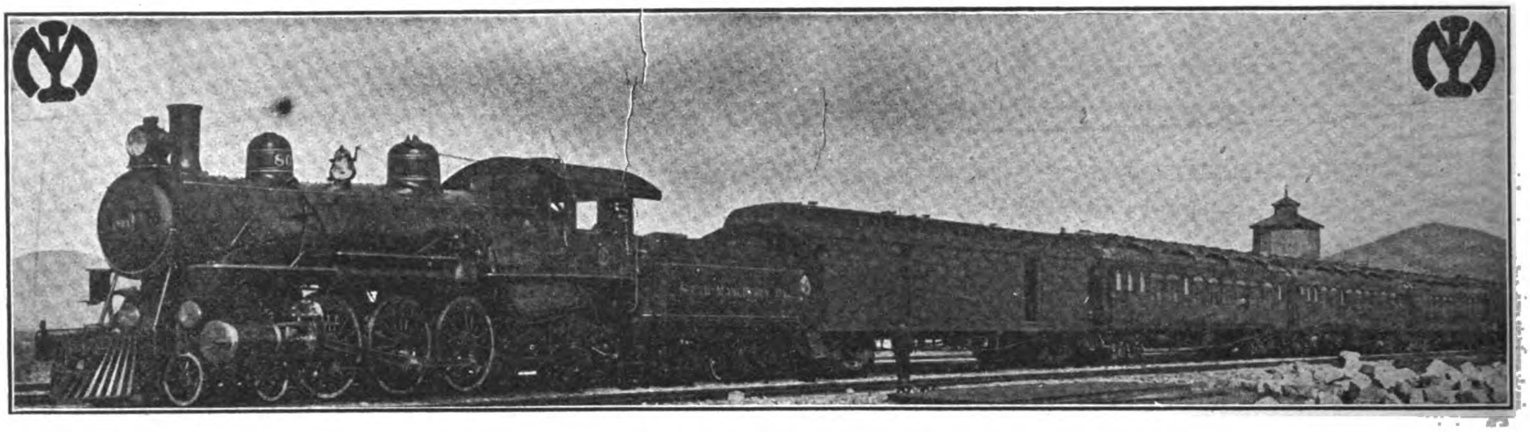
BRAKE RODS, TRUSS RODS, TRUCKS, AND BRIDGES, SUBJECTED TO SEVERE VIBRATORY STRAINS, SHOULD ALWAYS BE COATED WITH PATTON'S

"IRONHIDE"

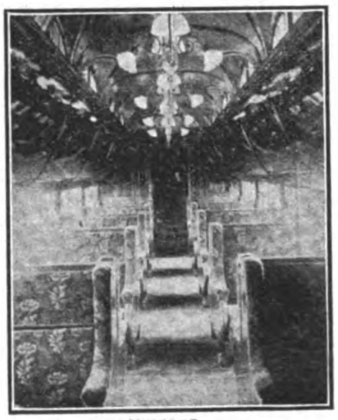
## FEARON, DANIEL & CO.

Sole Agents for CHINA, HONGKONG, JAPAN AND PHILIPPINES

SHANGHAI, NO. 9 FOOCHOW ROAD



# South Manchuria Railway



SLEEPER

**SHORTEST AND QUICKEST ROUTE BETWEEN THE FAR EAST AND EUROPE, VIA DAIREN**

INTERIOR PULLMAN DAY COACH

**Main Railway Line** THRICE WEEKLY EXPRESS TRAIN SERVICE, composed of excellently equipped Sleeping, Dining and 1st class Cars, is operated between Dairen and Changchun in connection with the Trans-Siberian Express Trains and with Shanghai Mail Steamers.

## BRANCH RAILWAY LINES

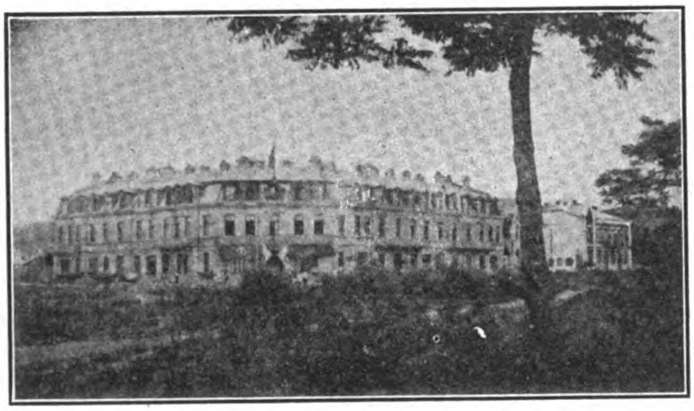
RYOJUN LINE—For Ryojun (Port Arthur), 1½ hours from Dairen.

YINGKOU LINE—For Yingkou (Newchwang), 40 minutes from Tashihchiao Junction.

FUSHUN LINE—For the famous Fushun Colliery from Suchiatun Junction.

ANTUNG LINE—A light railway from Mukden to Antung connecting with the Korean Railway.

DAIREN-SHANGHAI DIRECT STEAMER SERVICE—is maintained TWICE-WEEKLY by the S.S. "Kobe Maru" and "Saikio Maru" (2,877 tons each).



SOUTH MANCHURIA RAILWAY, YAMATO HOTEL, PORT ARTHUR

YAMATO HOTEL, DALNY

**TICKET AGENTS** The International Sleeping Car & Express Trains Co. and Messrs. Thos. Cook & Son.

**RAILWAY HOTELS** YAMATO HOTEL (Tel. Add.: "Yamato") At Dairen, Port-Arthur and Changchun, and shortly at Mukden, all under the Company's management.

**THROUGH PASSENGER TICKETS**—In conjunction with the Chinese Eastern Railway, Imperial Government Railways of Japan, the Imperial Railways of North China, the Osaka Shosen Kaisha and the Company's own steamers. Through Passenger Tickets are issued between the Company's principal stations and the undermentioned points:—

**NORTH MANCHURIA & SIBERIA:** Ashiho, Habarovsk, Hailar, Harbin, Manchouli, Nicolsk-Ussurisk, Pogranitchnaia, Shuangchengpu, Tsitsihar, Taolaichao, Vladivostock, Yaomen.

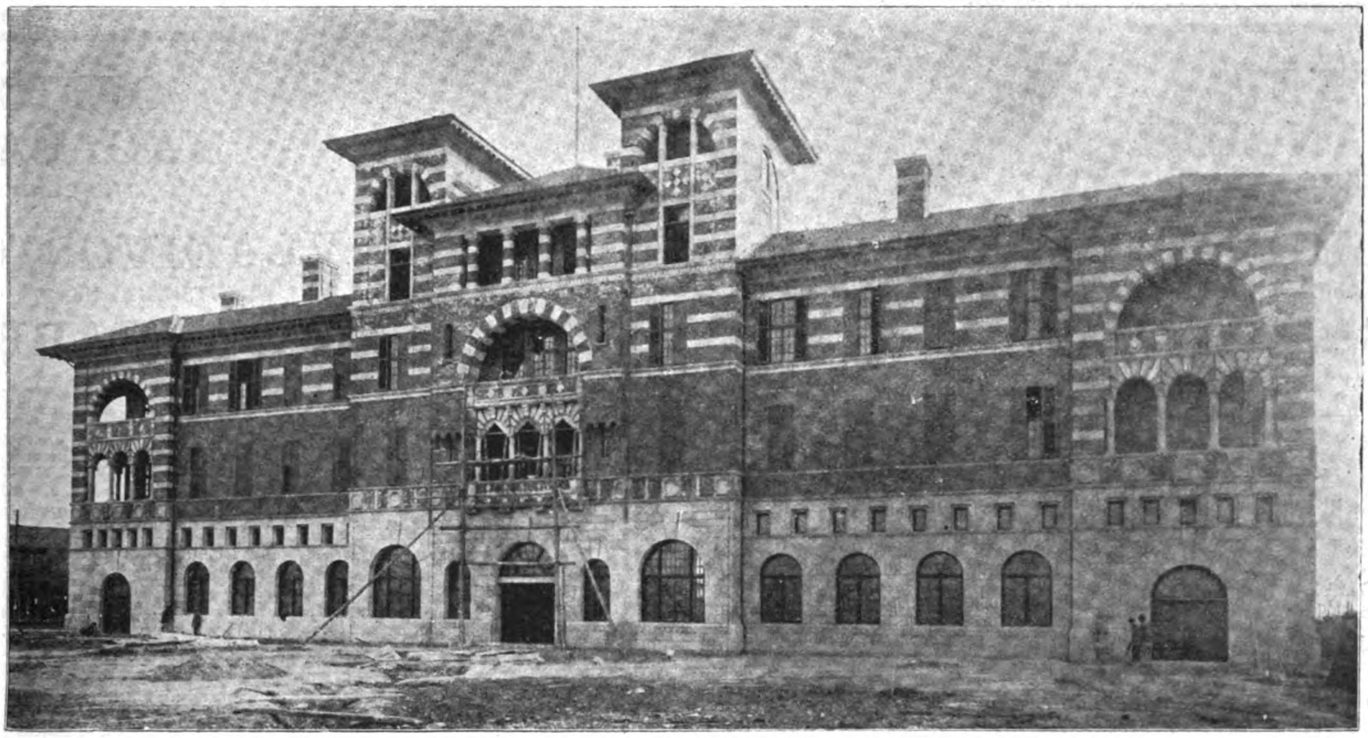
**CHINA:** Hsinminfu, Peking, Shanghai, Shanhaikuan, Tientsin.

**JAPAN:** Hakata, Hiroshima, Kioto, Kobe, Kumamoto, Moji, Nagasaki, Nagoya, Osaka, Shimonoseki, Tokyo, &c.

**SOUTH MANCHURIA RAILWAY COMPANY, Dairen**

**Tel. Add.: MANTETSU -:- Codes: A. B. C., 5th Ed., A1 and Lieber's**

# The Line of a Hundred Pagodas



NEW STATION AND ADMINISTRATION BUILDING AT SHANGHAI

PASSENGERS TO THE YANGTSZE RIVER PORTS SHOULD TAKE THE STEAMER AT NANKING, THUS ENJOYING A TRIP THROUGH THE INTERESTING LAND OF PAGODAS AND "THE GARDEN OF CHINA." NANKING, THE SOUTHERN CAPITAL OF CHINA, WITH ITS MANY INTERESTING SIGHTS, THE CELEBRATED MING TOMBS, AND OTHER ATTRACTIONS, CAN BE SEEN IN TWO DAYS' TRIP FROM SHANGHAI. THE FIRST AND SECOND CLASS COACHES OF THE S-N. RAILWAY COMPARE WITH THE BEST IN EUROPE OR AMERICA FOR COMFORT AND SERVICE. TWO EXPRESS TRAINS DAILY.

# CHINESE EASTERN RAILWAY

## STEAMER & EXPRESS SERVICE

FAR EAST — EUROPE

**TICKET OFFICES**

**SHANGHAI**
8 KIUKIANG ROAD

**NAGASAKI**
THE BUND

**PEKING**
AMBASSADOR'S STREET

**VLADIVOSTOK**
ALEUTSKAIA, No. 37

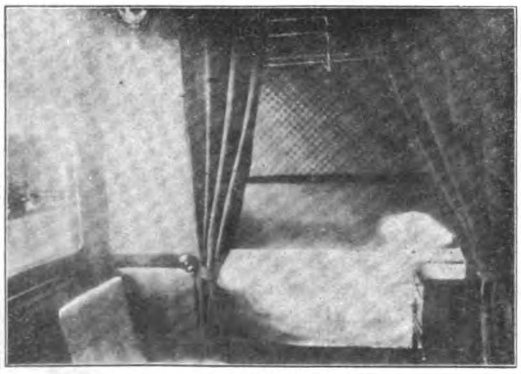
**HEAD OFFICES AT HARBIN**

## STEAMER AND TRAIN TIME TABE

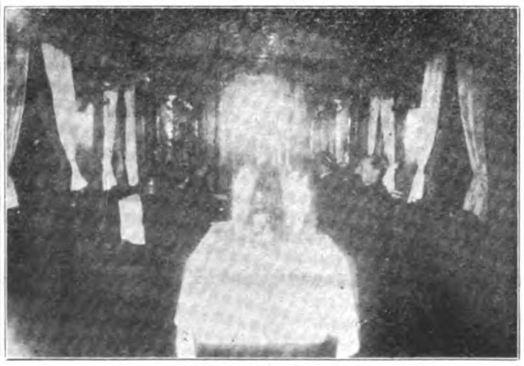
| STEAMERS | | Free Time Between the Arrival of Steamer and Departure of Train | TRAINS | | | |
|---|---|---|---|---|---|---|
| DEPARTURE | ARRIVAL AT VLADIVOSTOCK | | DEPARTURE FROM VLADIVOSTOK | ARRIVE IRKUTSK | ARRIVE MOSCOW | ST. PETERSBURG |
| | | | (Harbin Time) | (St. Petersburg Time) | | |
| SHANGHAI Saturday*.......... | Thursday, 9.00.................... | 31.25 hours | Friday, 4.25...... | Tuesday, 1.29... | ........................ | Monday, 6.00 |
| NAGASAKI Monday, 6.00...... | do do .................... | 31.25 " | Friday, 4.25...... | Tuesday, 1.29... | ........................ | Monday, 6.00 |
| TSURUGA Saturday 5.00 | Monday 11.00 .............. | 29.25 " | Tuesday 4.25.. | Saturday, 1.29.. | Friday, 7.06...... | .......................... |
| TSURUGA Thursday 5.00 | Saturday 11.00 .............. | 29.25 " | Sunday 4.25.. | Thursday, 1.29.. | Wed., 7.05....... | .......................... |

The hours of departure depend upon the tide. The express trains of the Chinese Eastern Ry. Co. leave Vladivostock on Fridays and Sundays. The express leaving on Fridays connect at Irkutsk with the express State trains running between Irkutsk and St. Petersburg via Vologda-Viatka. The Chinese Ry. Co.'s expresses consist of luggage car, restaurant car, two second and one first class cars, and are provided with a 1st class kitchen and servants speaking English and French.

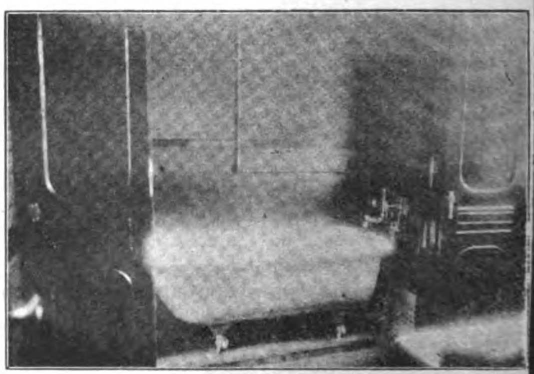
### THE COMFORTS OF THE CHINESE EASTERN EXPRESS



SLEEPING ROOM



DINING CAR



BATH ROOM

# SIEMENS SCHUCKERT

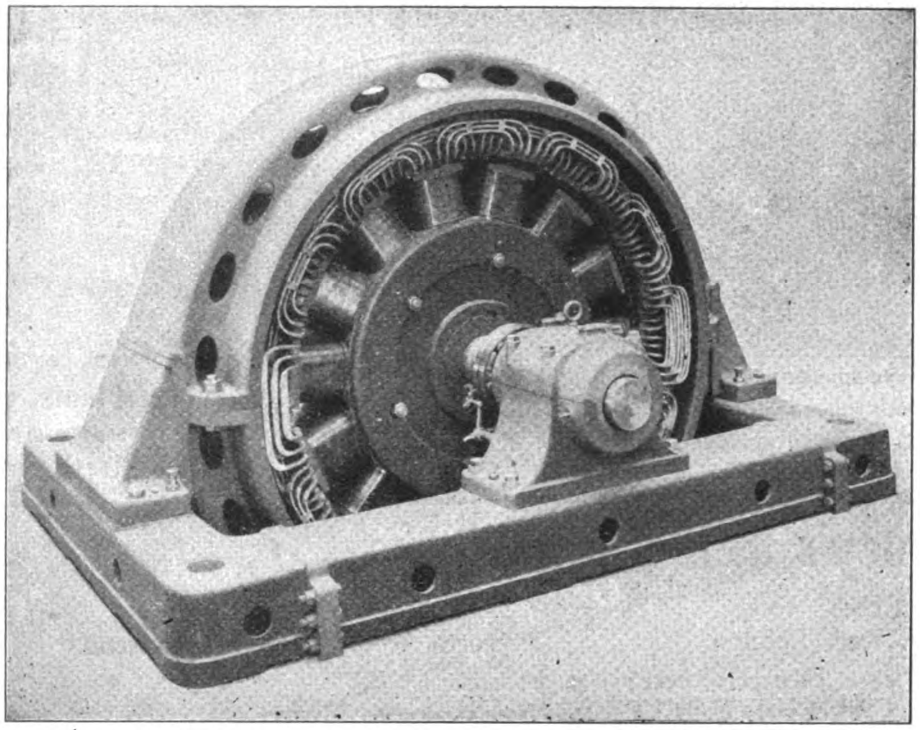
## MANUFACTURERS OF EVERYTHING ELECTRICAL

CHINA BRANCH HEAD OFFICE: AT SHANGHAI, SZECHUEN ROAD AND JINKEE ROAD CORNER
SUB-AGENCIES: AT TSINGTAO, HANKOW AND TIENTSIN, WITH A LARGE STAFF OF EFFICIENT ELECTRICAL ENGINEERS

Representing the Siemens Companies:

SIEMENS BROTHERS DYNAMO WORKS - - - London-Stafford
SIEMENS BROTHERS & COMPANY - - - - London-Woolwich
SIEMENS & HALSKE A. G. - - - - - - Berlin-Nonnendamm
GEBRUEDER SIEMENS & CO. - - - - - - Berlin-Lichtenberg
SIEMENS-SCHUCKERTWERKE G. m. b. H. - - Berlin-Nuernberg

Cable Address: FOR SHANGHAI, HANKOW & TIENTSIN, "MOTOR;" FOR TSINGTAU, "SIEMENS"
Codes used: PRIVATE, LIEBER'S AND A-1.



DIRECT COUPLED THREE-PHASE ALTERNATING CURRENT

## DYNAMO

**as installed at Mukden, Kirin, Soochow, Luanchow Mines and Tsingtau by Siemens-Schuckert-China-Branch**

***Plans and Estimates given for all descriptions of Electrical Machinery and Apparatus on short notice***

## COMPLETE EQUIPMENTS FOR

*Lighting, Power and Traction Plants—Electrical Pumping, Winding and Hauling Plants—Builders of the "Zoelly" Steam Turbine—Manufacturers of Telephone, Telegraphic and Roentgen Ray Apparatus, Watermeters, Ozone Machines, Cables, Glow-lamps, Batteries, Electric and Gasoline Motor-Cars.*

**WIRELESS TELEGRAPHY INSTALLATIONS, SYSTEM TELEFUNKEN**

19 SZECHUEN RD.
SHANGHAI
Telephone, 1944
Telegrams: "GOLDFLOWER"
Codes: A. B. C., 5th Ed. Lieber's and Engineering

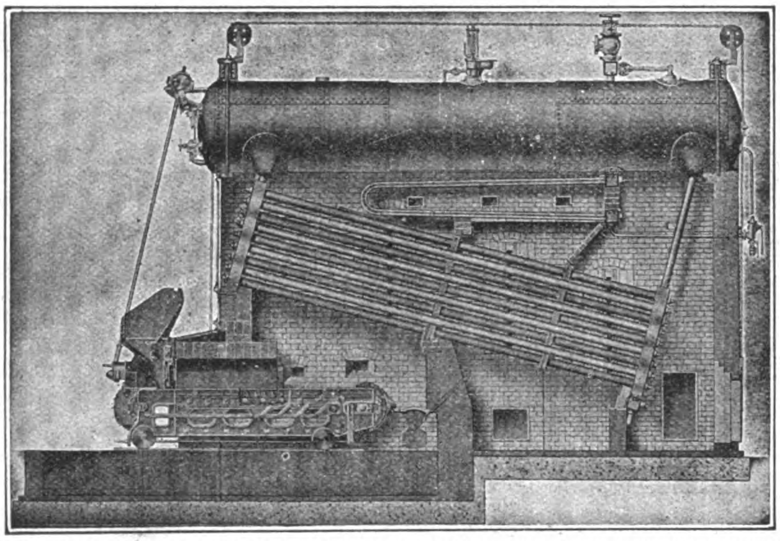
# DAVID W. BELL
## SHANGHAI CHINA

SOLE REPRESENTATIVE IN CHINA FOR THE FOLLOWING FIRMS

## BABCOCK & WILCOX, LIMITED
PATENT WATER TUBE BOILERS

7,000,000 H. P. Land Type and 1,400,000 H. P. Marine Type in use
2,100,000 H. P. of which are installed in

**Electric Light & Traction Stations**

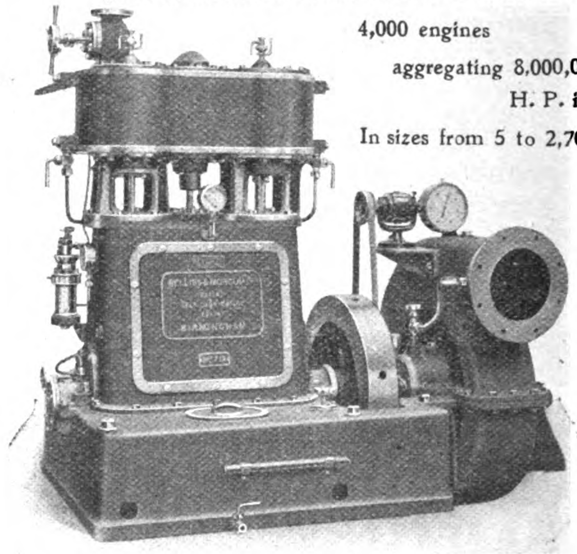


LAND TYPE BOILER FITTED WITH SUPERHEATER AND CHAIN GRATE STOKER

**Complete Steam Piping Installations and all Boiler House Accessories**

HEAD OFFICES:—Oriel House, Farringdon Street, London, E. C.
WORKS:—RENFREW, SCOTLAND

## BELLISS & MORCOM, LTD.
PATENT SELF-LUBRICATING
QUICK REVOLUTION STEAM ENGINES



4,000 engines aggregating 8,000,000 H. P. in use
In sizes from 5 to 2,700 H. P.

DIRECT CONNECT CENTRIFUGAL PUMPING

**Condensing Plants, Paraffin Engines**

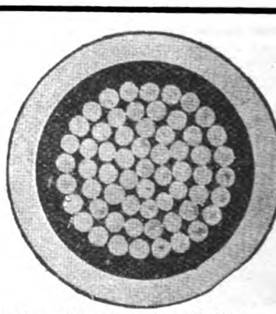
Head Office:
LEDSAM ST., BIRMINGHAM, ENGLAND

## W. T. Henley's Telegraph Works Co., Ltd.

HEAD OFFICES: Blomfield St., London Wall, London
WORKS: North Woolwich and Gravesend.

**Stocks carried at our SHANGHAI DEPOT, 19 Szechuen Road.**

Prices on application for Rubber, Paper, Jute or Bitumen. Insulated, House Service, Aerial and Bare Copper Cables. Flexibles or Telephone and Telegraph Cables of all kinds.



"61—.101—.5 sq. in.: H. T. Paper and Lead Covered."

## A Few Eastern Works Which Have Installations From One Or All the Above Firms

*Green Island Cement Co., Hongkong.*
*Electric Traction Co., of Hongkong.*
*China Light & Power Co., Kowloon and Canton.*
*Manila Electric R. R. & Light Co.*
*Shanghai Municipality Electricity Works (Tramway & Light.)*
*Cie Francaise de Tramways et d'Eclairage Electriques de Shanghai.*
*Shanghai-Nanking Railway.*
*Admiralty Dockyard, Hongkong.*
*The Trading Co., Hankow.*
*The Hongkong Electric Light Co.*
*The Hongkong and Whampoa Dock Co.*
*China Inland Light Co., Shanghai.*
*Swatow Electric Light Co.*
*Hankow Light & Power Co.*
*Hankow (Native City) Waterworks & Light Co.*
*Tientsin Gas & Electric Light Co.*
*Peking Electric Light Co.*
*Peking Syndicate, Ltd.*
*Hanyang Iron & Steel Works.*
*Tientsin Enterprising Corporation.*
*Fushun Colliery, Manchuria.*

**Correspondence Solicited—Estimates Given**

Specifications drawn and estimates given for Boilers, complete plants including superheaters, pumps, complete steam pipe ranges, chimneys, etc., Engines and condensing plants; for Central Stations, Dockyards, Arsenals, Mills, Factories, Collieries, Mines, etc.

SHANGHAI
HONGKONG
CANTON
HANKOW
CHUNGKING
TIENTSIN
TSINGTAU

# ARNHOLD, KARBERG & CO.

TSINANFU
NEWCHWANG
NEW YORK
BATTERY PL.
LONDON
BERLIN

## General Agents for

**ELECTRICAL GENERATORS, SUPPLIES, ETC.**
Allgemeine Electricitaets Gesellschaft (A. E. G.) Berlin.

**ELECTRIC TRAIN LIGHTING**
Electric Train Lighting Co., Berlin.

**RAILWAY MATERIAL**
Arthur Koppel Ltd., Berlin

**STEAM LOCOMOTIVES**
The Baldwin Locomotive Works, Philadelphia.

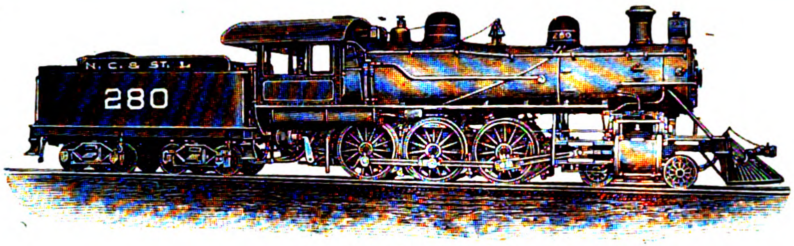
**STEAM PUMPS**
The A. S. Cameron Steam Pump Co., New York.

**TELEPHONE APPARATUS**
The Western Electric Co., New York and Chicago.

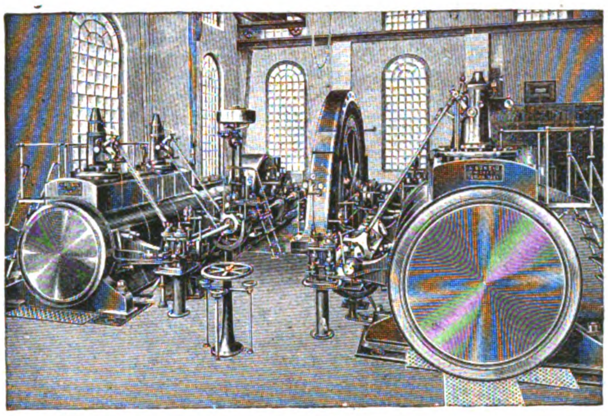
**FLOUR MILLING MACHINERY**
The Nordyke & Marmon Co., Indianapolis.

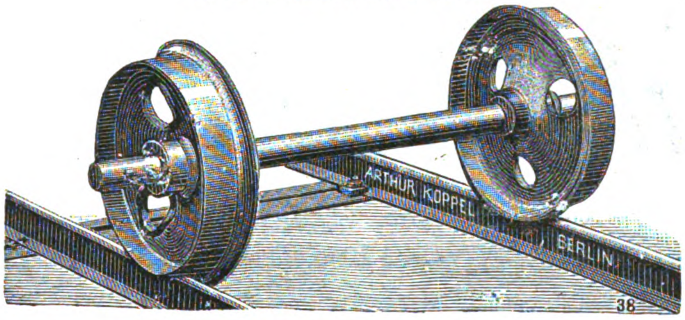
**BLASTING POWDER, FUSES, ETC.**
Rendrock Powder Co., New York.

**REINFORCED CONCRETE CONSTRUCTION**
Trussed Concrete Steel Co. (Kahn System), Detroit.



BALDWIN LOCOMOTIVE


A. E. G. ELECTRICAL PLANT



RAILWAY WHEELS AND AXLE

## General Agents for

**CONCRETE MACHINERY**
Ideal Concrete Machinery Co., South Bend.

**ROOFING**
Paraffine Paint Co., San Francisco.

**MOTORS, TORPEDO AND MINING MATERIAL**
Berliner Maschinenbau A. G. vorm Schwarzkoff, Berlin.

**ENGINES, PUMPS, BOILERS, ICE MACHINES, ETC.**
A. Borsig, Tegal, Berlin.

**AMMUNITION, ETC.**
Deutsche Waffen and Munitions Fabriken, Berlin, Karlsruhe.

**ARMY RIFLES, ARMS, ETC.**
Waffenfabrik Mauser A. G., Obendorf, Neckar.

**GUNS AND AMMUNITION**
Skodawerke A. G., Pilsen.

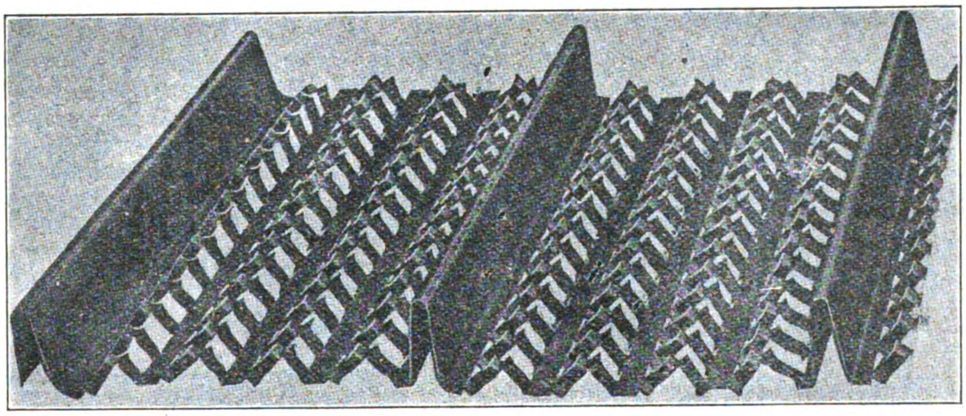
**MACHINE TOOLS**
Ludw. Loewe, A. G., Berlin.

**WAR VESSELS**
Stettiner Maschinenbau A. G. "Vulcan."

**HEAVY MACHINE TOOLS**
Niles-Bement-Pond Co., New York.

**BELTING**
Gandy Belting Co., Baltimore.

**DRILLING MACHINERY**
Davis Calyx Drill Co., New York.
Star Drilling Machine Co., Akron, Ohio.


HY-RIB USED EXTENSIVELY FOR WALLS, SIDINGS, ROOFS, PARTITIONS, SUSPENDED CEILINGS AND FURRING

**STEEL**
Jonas & Colver, Ltd., Sheffield.

**COTTON MILLING MACHINERY**
Asa Lees & Co., Ltd., Oldham.

**MOTOR BOATS**
Carl Meissner, Hamburg.

**DIESEL ENGINES**
Diesel Engine Co., Ltd. London.

# ENGINEERING AND ELECTRICAL DEPARTMENTS

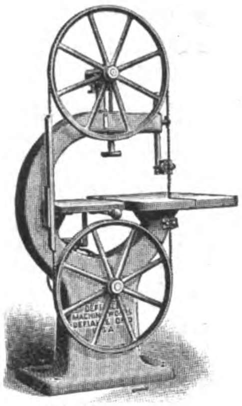
# "DEFIANCE" WOOD-WORKING MACHINERY

Invented and Built by

## THE DEFIANCE MACHINE WORKS

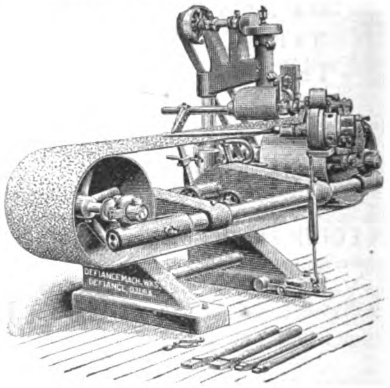
DEFIANCE, OHIO, U. S. A.

Send for Catalogue



28″ Band Saw

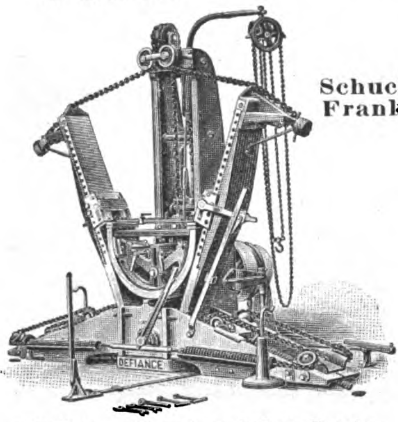
For manufacturing AUTOMOBILE WHEELS AND BODIES, Hubs, Spokes, Wheels, Wagons, Carriages, Rims, Shafts, Poles, Neckyokes, Single Trees, Hoops, Handles of all kinds, Bobbins, Spools, Insulator Pins, Table Legs, Balusters, Shoe Lasts, Oval Wood Dishes and for General Woodwork.



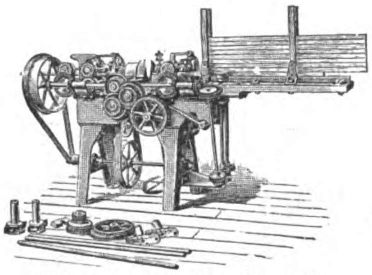
Automatic Spoke Polisher

EASTERN AGENTS:

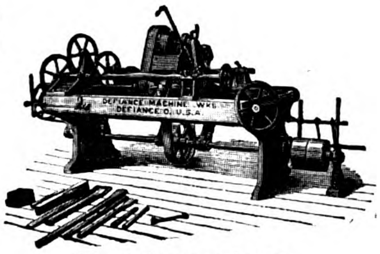
Schuchardt & Schutte, Shanghai | Mitsui & Co., Tokyo
Frank L. Strong, Manila, P. I. | London Office, 71 Queen St. E.C.



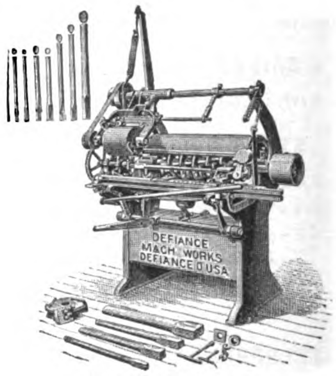
12″ Felloe, Hound and Bow Bender



Automatic Long Handle Lathe



No. 1 Copying Lathe



32″ Spoke Lathe

# *General Electric Company*

*PRINCIPAL OFFICE: SCHENECTADY, N. Y.*

## Largest Manufacturer of Electrical Apparatus in the World

The most extensive engineering and manufacturing resources in the world enable the General Electric Company to produce completely developed apparatus and accessories for the generation and transmission of electricity and its application to all lighting and power purposes -:- -:- -:- -:- -:- -:- -:- -:-

**Far Eastern Addresses:**

GENERAL ELECTRIC COMPANY (Special representative for the Far East) 23 Water Street, Yokohama, Japan

MITSUI & CO., Tokio, Japan.

BAGNALL & HILLES, Yokohama, Japan

FEARON, DANIEL & CO. }
ANDERSEN, MEYER & CO. } No. 4 Yuen Ming Yuen Road, Shanghai, China.

FRANK L. STRONG, Manila, P. I.

# California-Manila-Lumber Commercial Co.

Cable Address: "HOOPTON"

Codes: Western Union, Universal Edition—Lybo A.B.C. 4th Edition—Century

Telephone 290
P. O. Box 782

IMPORTERS OF
## OREGON PINE REDWOOD
and all kinds of Hardware

Representatives of
Leading American Manufacturers of Machinery, Building Material, Engineering Supplies, Etc.

Representatives of

The Trussed Concrete Co., *Detroit, Mich.*
Acetylene Apparatus M'fg. Co., *Chicago, Ill.*
A. L. Canfield, *New York City.*
Contracting Plant M'fg. Co., *New York City.*
Higgins Manufacturing Co., *Newport, N. J.*
Lobee Machinery Co., *Buffalo, N. Y.*
McCray Refrigerating Co., *Kendallville, Ind.*
Morreau Gas Fixture M'fg. Co., *Cleveland, O.*
Shoel Kopf, Hartford & Hanna Company, *Buffalo, N. Y.*
South Bend Chilled Plow, *South Bend, Ind.*
J. B. Wise & Co., *Watertown, N. Y.*

*Offices: 10-11-12 LACK & DAVIS Building, Calle Echague, Manila, P. I.*

CORRESPONDENCE SOLICITED

# Warner, Barnes & Co., Ltd.
## Manila, London, New York, Iloilo, Cebu, Albay, Samar, Leyte
General Merchants, Insurance and Shipping Agents
Importers and Exporters

**Steamship Agencies:**
Nippon Yusen Kaisha
Regular lines to Australia Manila, Japan, Europe and America.
China & Manila S. S. Co., Ltd.
International Sleeping Car Co.
Trans-Siberian Railway
White Star Line
Bibby Line
American Asiatic S. S. Co.

**Express Companies:**
China Express Company
Geo. W. Wheatley Co.'s Express
United States Express Co.
Neale & Wilkinson Express Co.

**General Managers**
The Pasig Steamer & Lighter Company Limited
The Pasay Estate Ltd.

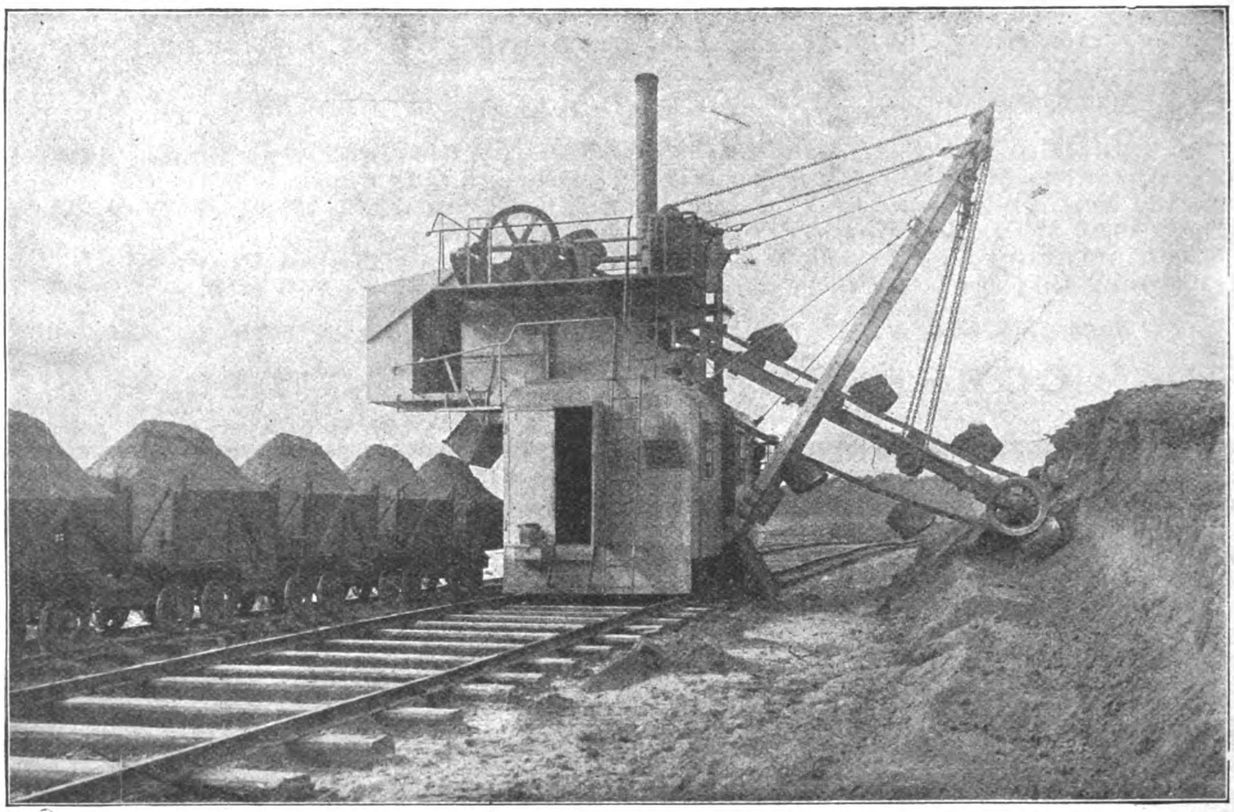
**Insurance Agencies:**
Royal Exchange Assurance Corporation
Law Union & Rock Insurance Co., Ltd.
State Assurance Co., Ltd.
China Fire Insurance Co., Ltd.
Maritime Insurance Co., Ltd.
Western Assurance Co.
Yangtse Insurance Association Ltd.
Tokio Marine Insurance Co., Ltd.

Telegraphic Address:—WARNER
P. O. Box 294
Tel. Nos. 228—104—610—182

No. 7 Carenero
MANILA, P. I.

# MACHINERY
# OF ALL KINDS

## RAILWAY MATERIAL AND SUPPLIES



RAILWAY EXCAVATOR

*AGENTS FOR:*

Felten & Guilleaume-Lahmeyer Werke, Frankfort/ Main, Electrical Supplies : : : :

Gasmotoren Fabrik Deutz, Cologne-Deutz, Original "OTTO" Gas and Oil Engines and Suction Gas Plants : :

Haniel & Lueg, Duesseldorf, Hydraulic and Mining Machinery, Heavy Steel Castings :

## SIEMSSEN & CO.

ENGINEERS & CONTRACTORS

SHANGHAI

HONGKONG, CANTON, HANKOW

TIENTSIN, TSINGTAU

*SPECIFICATIONS AND ESTIMATES GIVEN FOR INDUSTRIAL PLANTS OF EVERY DESCRIPTION*

All Kinds of Machine Tools, Pumps, Locomobiles, Oil Engines, Dynamos and Motors carried in stock at Shanghai

*AGENTS FOR:*

Orenstein & Koppel, Ltd., Berlin, Railway Material : : : :

R. Wolf, Magdeburg-Buckau, Patent Superheated Steam Locomobiles : : : : :

Weise & Monski, Halle/ Saale, Pumping Machinery : : :

Cable Address: "SANIDAD"
Codes: Western Union, A. B. C. 5th ed.

P. O. Box 137
Telephone 3 and 4
Bodegas 1129

# AMERICAN HARDWARE & PLUMBING CO.

30 Echague, Manila -:- New York Office, Park Row Bldg.

*Heavy and Shelf Hardware.*
*Pipe and Fittings for Steam and Water Installations.*
*Steel Bars for Reinforcing, Forging and Tools.*
*Roofing Sheets, Plain Sheets, Sheet Piling, Nails.*
*A broad line of General Contractors' Supplies.*

Store, 30 Echague, Manila

*Paints and Oils*
*Lubricating Oils*
*Hose and Belting*
*Pumps and Fencing*
*Plate and Window Glass*
*Metal Ceiling, Scales*
*Stoves, Crockery*
*Glassware, General*
*House Furnishings, Safes,*
*Sporting Goods and*
*Typewriters*

We carry the largest stock in the Far East of Sanitary Fixtures, and pipe and fittings for sanitary installations. We are prepared to make sanitary installations on the most favorable basis, and can furnish plans and estimates promptly. Correspondence solicited.

## CADWALLADER GIBSON LUMBER CO.

WHOLESALE AND RETAIL DEALERS AND EXPORTERS IN

PHILIPPINE MAHOGANY

Hardwood Timber for Bridge Construction and Railway Sleepers a Specialty : : : :

We Own Two Big

Sawmills and Furniture Factory

Gibson Furniture

BLINDS, SASH, DOORS, ETC., MANUFACTURED BY

Up-to-date Machinery

OFFICE FIXTURES, SHOW WINDOWS, STORE FURNISHINGS, DESKS, ETC.

ESTIMATES FURNISHED

Yard Office . . . . . . 302 CALLE SAN MIGUEL, MANILA
SIMAY, BATAAN, P. I.

Cable Address:
CAHOY

Codes:
Western Union, Universal Edition; A. B. C.

## Export and Import Lumber Co.

SUCCESSORS TO

## The B. W. Cadwallader Company

P. O. Box 433 MANILA, P. I. Telephone 363

Importers of Oregon Pine Lumber

Exporters of Philippine Hardwood Lumber, Sleepers and Timber for Railroad Construction, etc. : : : : : :

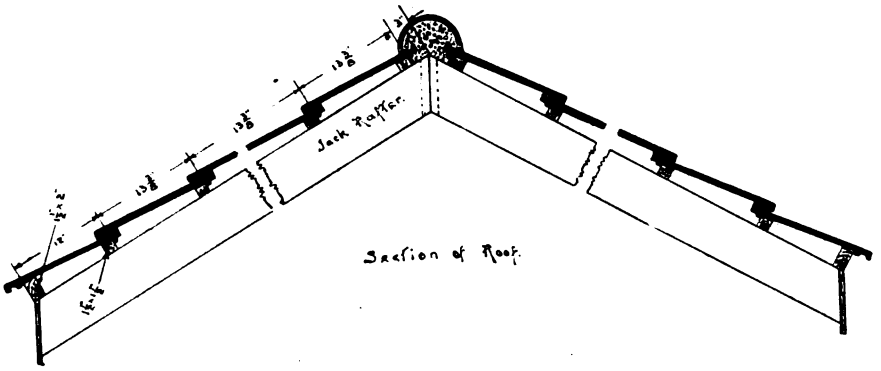
W. W. PAYNE
President and General Manager

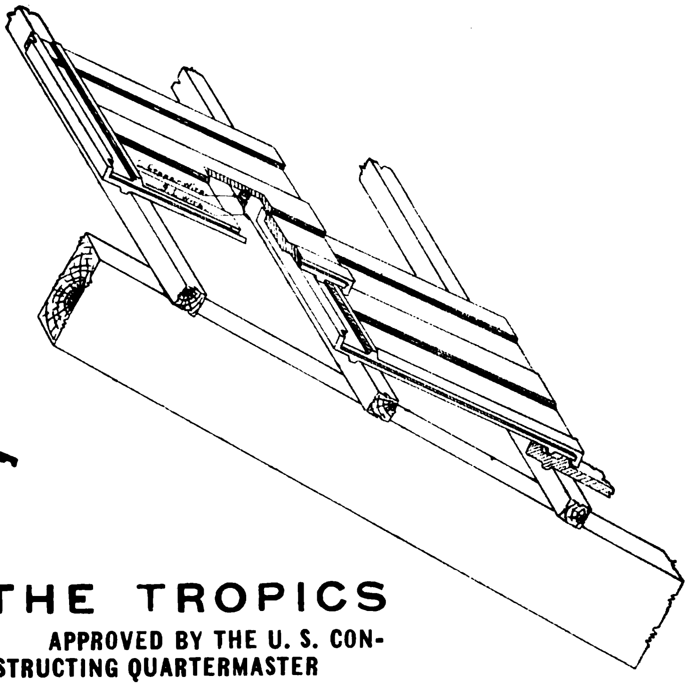
Mills and Office

51 CALLE TANDUAY MANILA, P. I.

# DOUBLE INTERLOCKING REINFORCED CEMENT ROOFING TILE

PATENT APPLIED FOR





## THE ROOFING FOR THE TROPICS

ADOPTED BY THE PHILIPPINE GOVERNMENT AS ITS STANDARD | APPROVED BY THE U. S. CONSTRUCTING QUARTERMASTER

## C. FRESSEL & CO.

G. LUDEWIG S. EN C. SUCCESSORS

**Office: 118-122 Nueva, Binondo, Manila, P. I.**

P. O. Box 455 — Cable Address: FRESSEL. Codes Used: A. B. C. 4th and 5th Editions — Telephone 195



Cable Address: "BANGA"—A. I. CODE

Main Office: ZAMBOANGA, MINDANAO, P. I.

## The Port Banga Lumber Co., Inc.

**Mills: Port Banga, Sibugay Bay, Mindanao, P. I.**

We are cutting at present:

- Yacal
- Molave
- Guijo
- Lumbayao
- Pagatpat

WHOLESALE ONLY!

Posts, Pilings, R. R. Ties, Bridge Timber, Telegraph Poles.

Telegraph Cross Arms, and Lumber cut to dimensions.

Temporary Piles of 4 Group timber 10 to 70 ft. long.

Permanent Piles of Liusin, Molave, 10 to 70 feet long.

Total amount cut and manifested 12 months ending October 1st, 1908, 3,034,651 Board Feet.

The Harbor at Port Banga, where largest Ocean-going vessels can enter, is safe at all seasons of the year and anchorage is good. Ships always promptly loaded and we give absolute guarantee that material will be delivered alongside as rapidly as ship can take it. Ship Charter can be based on these facts. One to two ships per month calling at Port Banga makes it possible to make prompt deliveries.



Telephone No. 551
P. O. Box No. 284

Cable address: "GREILSAMMER"

## Greilsammer Bros.

### General Importers

### Wholesale and Retail Jewelers

Diamonds,

Jewelry,

Watches.

Sterling and

Plated Ware

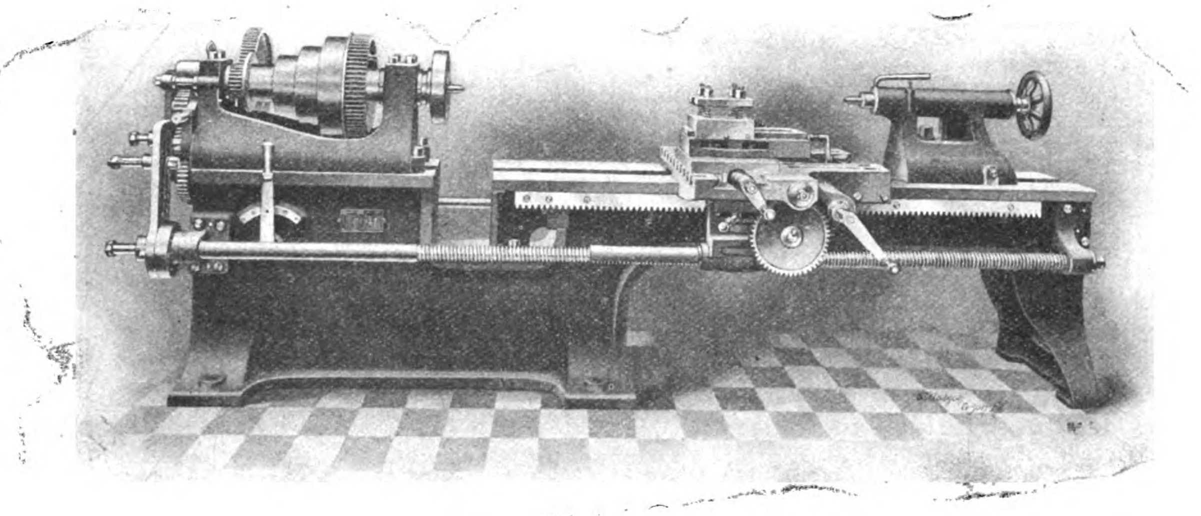
34-36 Escolta — Manila, P. I.

# JARDINE, MATHESON & CO., LTD.

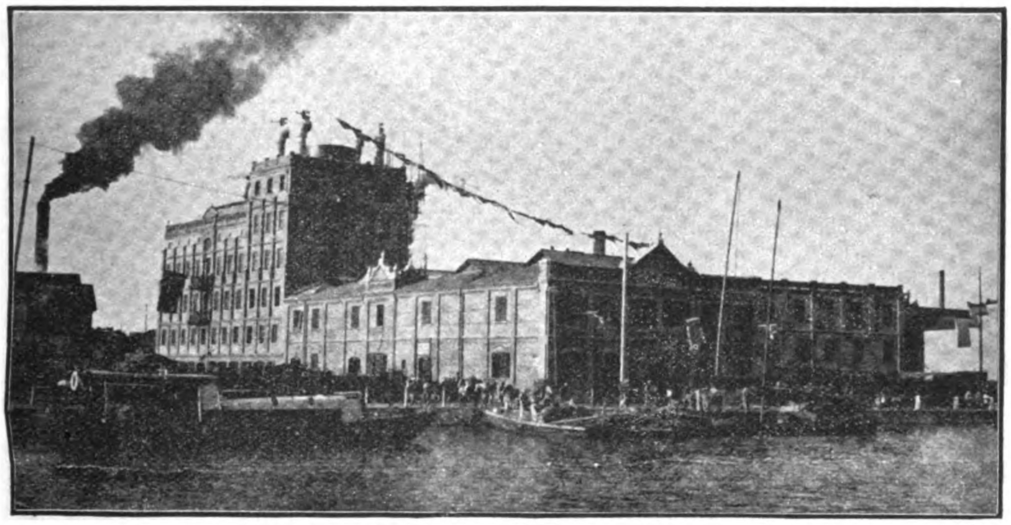
## HONGKONG AND CHINA

**MACHINERY DEPARTMENT**
**Peking Road, Shanghai**

**ENGINES, BOILERS, PUMPS AND ELECTRICAL MACHINERY FOR ALL PURPOSES, ENGINEERING AND ELECTRICAL SUPPLIES IN STOCK**



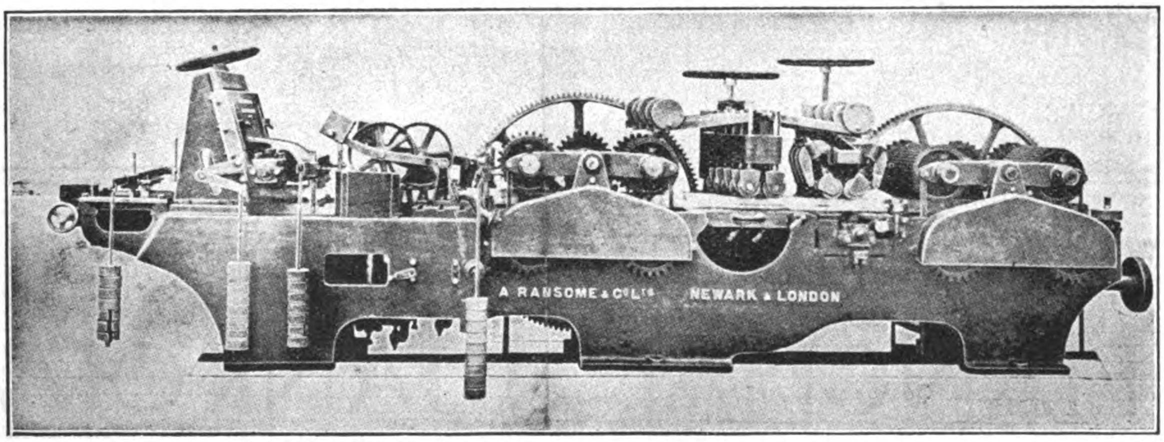
LATHES AND TOOLS OF ALL KINDS



YUEN CHUNG FLOUR MILL, SHANGHAI—MACHINERY FURNISHED AND INSTALLED—JARDINE MATHESON & CO.

**SOLE AGENTS FOR:**

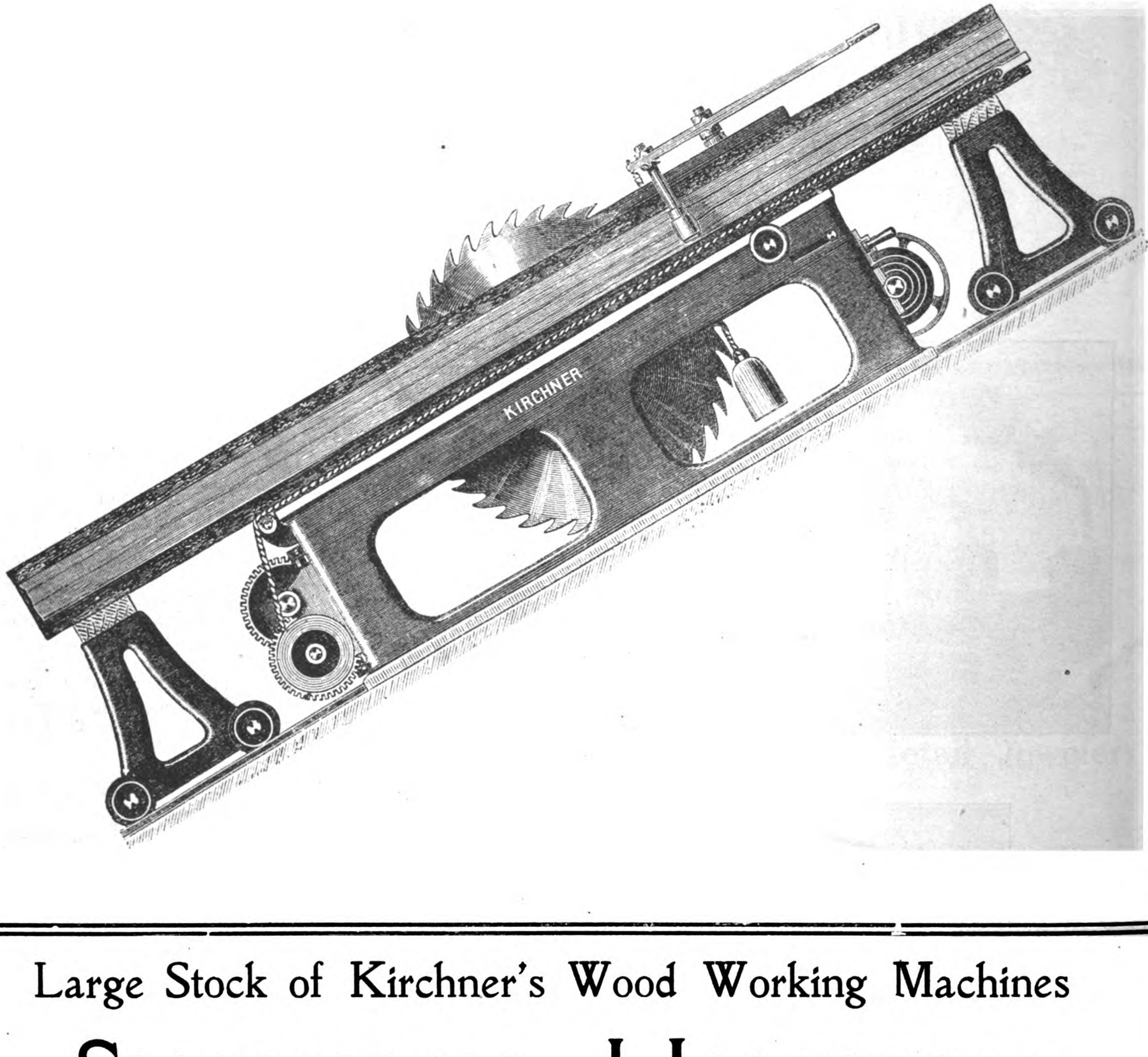
Messrs. Chas. Price & Co.
Messrs. J. B. White & Bros.
Messrs. Gwynnes, Limited.
Messrs. Marshall Sons & Co., Ltd.
Messrs. Merryweather & Sons, Ltd.
Messrs. A. Ransome & Co., Limited.
Messrs. Meredith Jones & Sons, Ltd.
Messrs. O. & W. Ormerod.
The Westinghouse Brake Co., Ltd.
Messrs. Bruce Peebles & Co., Ltd.
The British Northropp Loom Co.
Messrs. Joshua Hendy Iron Works.
Messrs. Henry Livesey, Limited.
The Barber Asphalt Roofing Co.
Messrs. Thos. & Wm. Smith, Limited
The Kitson Lights Foreign Supply Co.
North British Locomotive Co., Ltd.
Etc.




HIGH-SPEED FLOORING AND MATCH BOARDING MACHINE

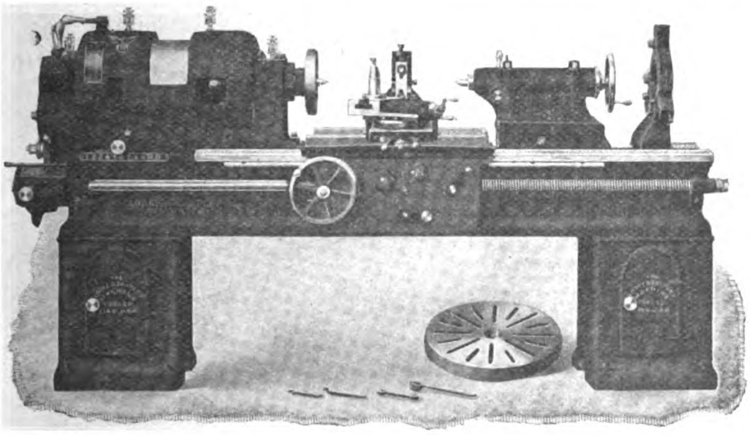
# SHANGHAI MACHINE COMPANY

Cable Address: "FERRO"




Large Stock of Kirchner's Wood Working Machines

## SHANGHAI, HANKOW



# THERE ARE THREE TYPES OF LATHE

From Which to Choose

**ONE of them has ALL the ADVANTAGES**

| | PATENT HEAD | CONE HEAD | GEARED HEAD |
|---|---|---|---|
| OPEN BELT SPEEDS.......................... | ,, | ,, | ,, |
| LARGE DRIVING PULLEY AND WIDE BELT. | ,, | ,, | ,, |
| BELT NEVER SHIFTED.......................... | ,, | ,, | ,, |
| NO BELT PULL ON SPINDLE.................. | ,, | ,, | ,, |
| ADJUSTMENT FOR WEAR OF BACK GEAR TEETH .................................... | ,, | ,, | ,, |
| LOW PERIPHERAL SPEED OF GEARS....... | ,, | ,, | ,, |

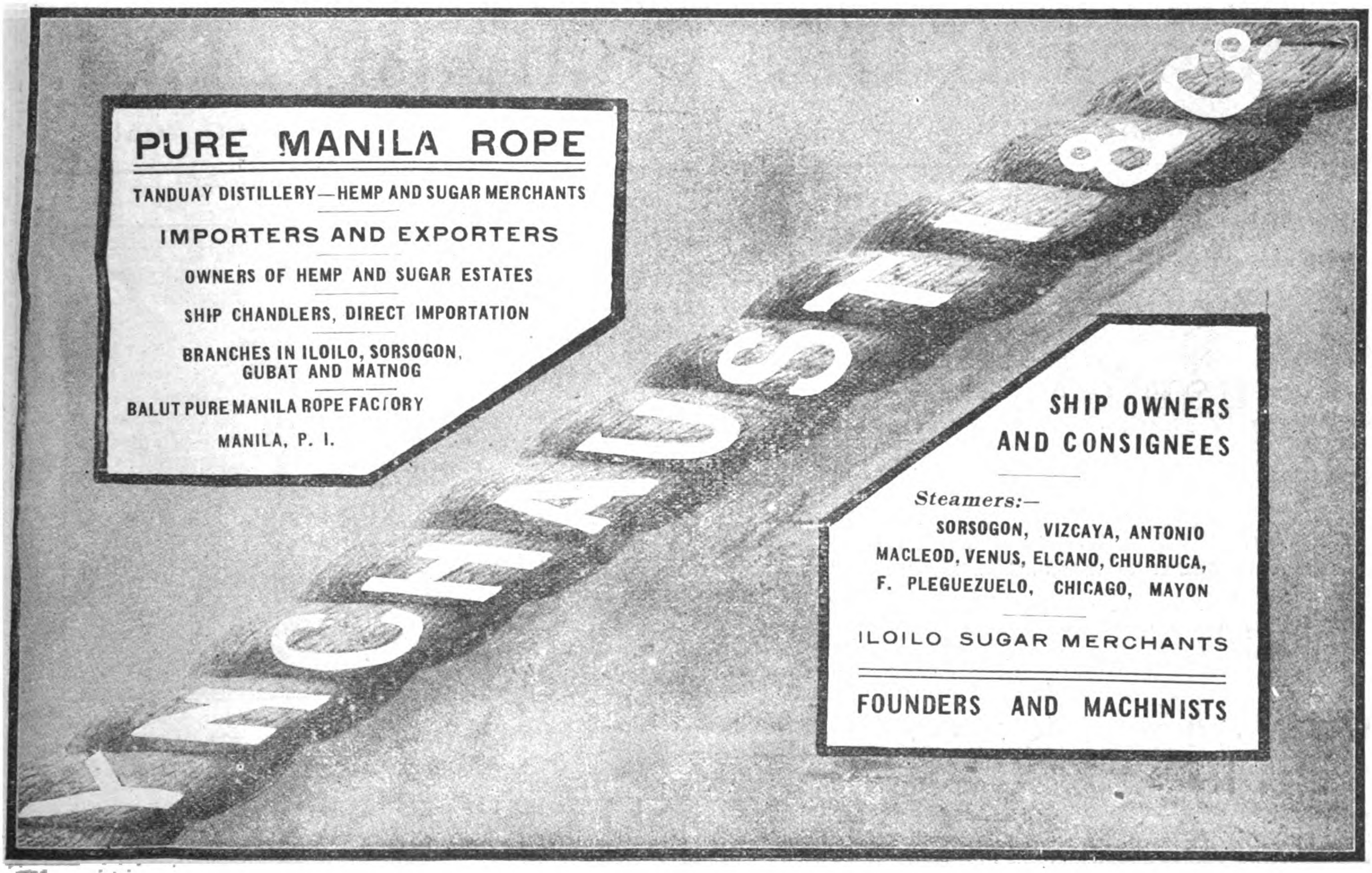
## THE LODGE & SHIPLEY MACHINE TOOL CO.

**CINCINNATI, OHIO, U. S. A.**

**FOREIGN AGENTS:** CHAS. CHURCHILL & CO., Ltd., London, Birmingham, Manchester, Glasgow, Newcastle-on-Tyne; WERNER HULT, Helsingfors; DONAUWERK, ERNST KRAUSE & CO., Vienna, Prague, Budapest; V. LOWENER, Copenhagen, Christiania, Stockholm; ALFRED H. SCHUTTE, Barcelona, Bilbao, Brussels, Cologne, Milan, Paris; SCHUCHARDT & SCHUTTE, Berlin, St. Petersburg; R. S. STOKVIS & ZONEN, Ltd., Amsterdam, Rotterdam, Groningen, Brussels; ANDREWS & GEORGE, Yokohama; BEVAN & EDWARDS PROPTY, Ltd., Melbourne; ADOLFO B. HORN, Havana.

**AGENTS WANTED FOR TERRITORY IN WHICH WE ARE NOT ALREADY REPRESENTED**





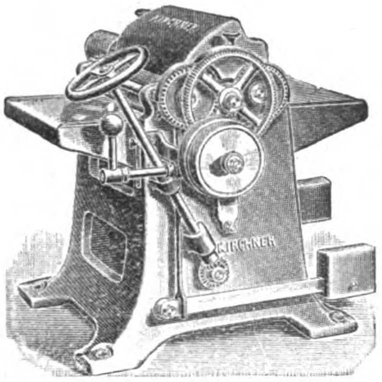
CABLE ADDRESS: "FEDERATION"

# GERMANN & CO., Ltd.

PHONE 500
P. O. BOX 310

## Electrical and Mechanical Engineers and Contractors

3 PASAJE DE PEREZ, MANILA, P. I.

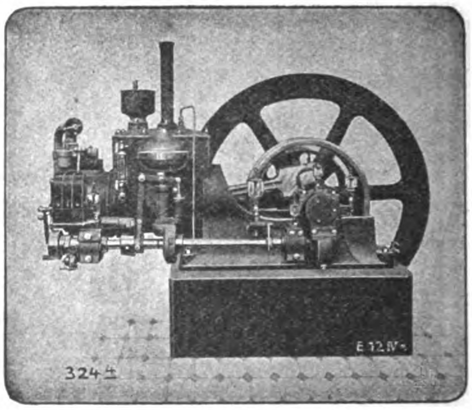


KIRCHNER'S PLANER

GENERAL MACHINERY
AND SUPPLIES

ELECTRIC LIGHT AND POWER
PLANTS

SCIENTIFIC APPARATUS
AND INSTRUMENTS



PETROLEUM MOTOR ENGINE

COMPLETE INDUSTRIAL AND AGRICULTURAL MACHINERY OUTFITS

CONSULTING AND CONSTRUCTING ENGINEERS

REPRESENTING LEADING MANUFACTURERS OF THE UNITED STATES AND EUROPE

# Shanghai Gas Company, Ltd.

Offices: THIBET ROAD — Show Room: NANKING ROAD

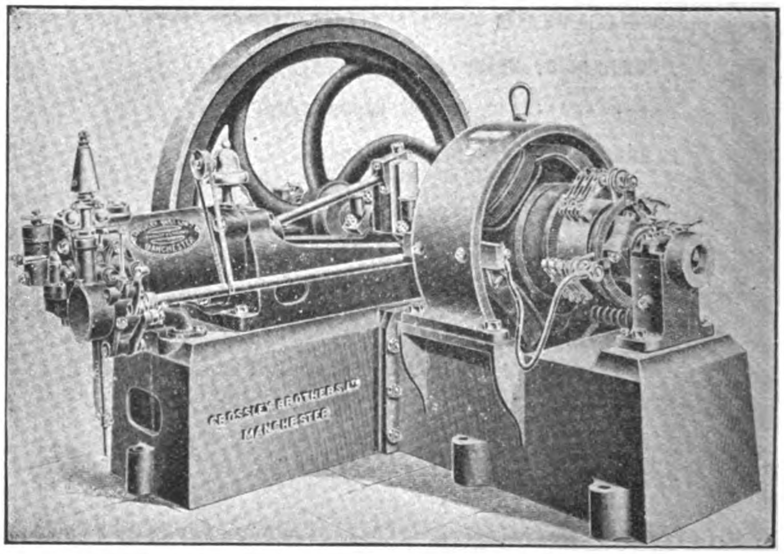
**To obtain Light, Heat or Power in the most economical way**

## USE GAS

威麟

The Shanghai Gas Company let on loan (free) Gas Cookers, Gas Fires and Radiators.
Also High Power Lamps and Geysers on hire.
Large assortment of Welsbach Gas Fittings always kept in Stock.

APPLY FOR PARTICULARS



4 KILOWATT PLANT, DIRECT CONNECTED TO CROSSLEY ENGINE

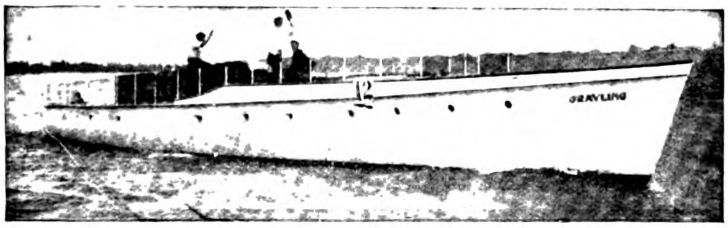
## Agents for CROSSLEY BROS.

**GRAY MOTORS are made in the largest and most up-to-date plant in the world devoted exclusively to the manufacture of 2-cycle marine motors.**

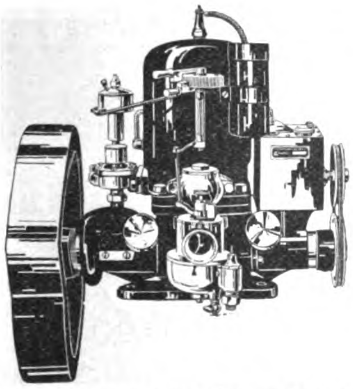
We build nothing in our plant but GRAY motors. Our plant was built and equipped to build GRAY Motors and *nothing else.*

We *concentrate* our entire attention, ability and capital to build the *best* motor it is possible to build, and sell it at a price that gives us the *greatest volume of 2-cycle marine business in the world.*

When you get a GRAY Motor, you get the benefit of all our concentration at a price made possible only by the enormous volume of our business.



*The Fastest Cruising Motor Boat in the World* of its length and beam, the yacht Grayling, is equipped with three GRAY MOTORS.



*Features of Gray Motors:*
Fuel Economy.
Long Life.
Every part absolutely interchangeable.
Mechanical pump lubricator.
Sparl coil on cylinder.
Starts without cranking.
Long, high grade, interchangeable bearings, cylinder, piston, piston rings are ground to a mirror finish giving perfect compression. Ball thrust bearings.
Oil ring on cranks, elevated gear driven commutator, bronze gear driven pump, Krice or Schebler carburetor.

*No other motor*, high price or low price, includes all these features.

1, 2 and 3 cylinders 3 to 36 horse power

*Heavy Duty Motors for Fishing Boats* and commercial purposes. Gray Motors are made in styles and sizes suitable for *any* boat under *any* conditions.

All prices of Gray Motors include complete marine and electrical outfits, with batteries all wired up, duplicates of parts subject to the most wear and complete outfit of high grade tools. The entire outfit is carefully packed in a water proof cover and excelsior and securely fastened in an iron bound box.

The Gray Motor Company maintains a Department of Foreign Service which gives every inquiry prompt, careful and courteous attention. Correspondence is conducted in any language. Write today for catalog and full information.

# GRAY MOTOR CO.

**88 Leib St., Detroit, Mich., U. S. A.**

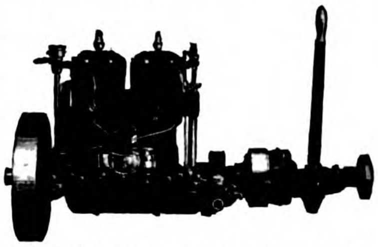
# FERRO

## The World's Standard Boat Motor

In your choice of a motor boat, the deciding factor should be the engine. On it depends your ultimate pleasure and satisfaction in boating.

By choosing the Ferro Motor, you take no chance. You know that you are getting a marine engine which, in actual service, has proven itself the world's standard.

The Ferro design embodies the most advanced ideas in engine construction. The materials and workmanship that enter into every process of Ferro manufacture are up to the highest standard of quality.



Ferro motors are built to meet conditions in the Far East. They are today giving satisfaction in all parts of the world.

Write us for full information on boats, motors and equipment. We can help you select your exact requirements. Ferro literature sent free on request. A complete line can be secured from the nearest office of this paper.

**We Want Agents**

We still have some favorable territory for which we have no selling agents. If you are in a position to take up the sale of Ferro Motors, write us in full.

**The Fastest Boat in Auckland Harbor, New Zealand, Equipped with 25-HP Ferro Engine**

**THE FERRO MACHINE & FOUNDRY COMPANY**

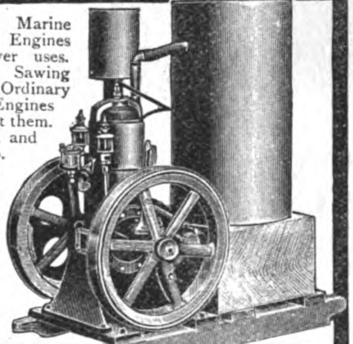
**Largest Marine Engine Builders in the World.**

**Main Offices, 820 Superior Ave. Cleveland, O., U. S. A.**

**New York Office, 44 Cortlandt St., 2nd Floor**

# DETROIT OIL ENGINES *Fully Warranted*

Marine Oil Engines for boats. Marine Reverse Gears. Stationary Oil Engines for farms, shops, and all power uses. Pumps and pumping outfits. Sawing outfits. Electro-generating sets. Ordinary lamp oil used for fuel. Detroit Engines require no heater or lamp to start them. Attachments for petrol, alcohol and Gas. Sizes from 2 hp. to 100 hp. One to eight cylinders. Prices very attractive. Write for agency terms. Valuable territory offered to reliable firms or individuals. Bank references given. Handsomely illustrated catalog sent on request.



**DETROIT ENGINE WORKS, Meldrum Avenue, Detroit, Michigan, U.S.A.**

# IMPROVED AUTOMATIC WRENCH

Self-adjusting, works automatically on pipes, rods and nuts. Strongest, simplest and handiest wrench ever made. Grips instantly, the harder the pull the tighter the grip. Especially suitable for Machine shops, Garages and Dock Yards. Made in the following sizes:

| | | | | |
|---|---|---|---|---|
| 6 in. | opens to | 7/8 in. | Price | 2s. |
| in. | " | 1 1/8 in. | " | 3s. |
| 12 in. | " | 1 1/2 in. | " | 4s. |
| 16 in. | " | 2 in. | " | 5s. |
| 20 in. | " | 2 1/2 in. | " | 6s. |

Sample wrenches sent prepaid on receipt of Money order.

IMPORTERS, DEALERS and AGENTS. The "Superior Wrench" is in use throughout the United States and in many foreign countries. Write for our special offer and printed matter.

SUPERIOR WRENCH CO., Marshalltown, Iowa, U. S. A.

# Fearon Daniel & Co.

# Andersen Meyer & Co.

## ENGINEERING DEPARTMENT

**4 and 5 Yuen Ming Yuen Road, Shanghai**

### SOLE AGENTS FOR:

GENERAL ELECTRIC CO. OF NEW YORK
Electric Light, Power, and Railway Apparatus, Electric Supplies.

BRITISH THOMSON-HOUSTON OF RUGBY
Electric Engineers and Manufacturers.

AMERICAN CAR & FOUNDRY CO.
Manufacturers of Railway Cars.

BUDA FOUNDRY & MANUFACTURING COMPANY
Railway Material, Track Supplies, Etc.

McCONWAY & TORLEY CO.,
Janney Car Couplers.

C. T. HAM MANUFACTURING CO.,
Lanterns and Lamps.

BOLTE & WEYER CO.,
Gasoline Lighting Systems.

KUEFFEL & ESSER,
Drawing Materials and Surveying Instruments.

THE FERRO MACHINE & FOUNDRY COMPANY,
Gasoline Motor Boat Engines.

THE AVERY MANUFACTURING CO.,
Agricultural Implements.

THE H. W. JOHN'S-MANVILLE CO.,
Asbestos Goods, Steam Packing, Etc.

A. & P. STEVEN,
Lifts.

AJAX FIRE ENGINE WORKS,
Chemical Fire Engines.

DEMPSTER, MOORE & CO.,
Machine Tools.

DE LA VERGNE REFRIGERATING CO.,
Ice & Refrigerating Machinery.

DE LOACH MANUFACTURING CO.,
Wood Working Machinery.

THE SULLIVAN MACHINERY CO.,
Mining Machinery.

MACHINERY AND ENGINEERING SUPPLIES

RAILWAY MATERIAL, ELECTRIC LIGHT AND POWER PLANTS

# VELUVINE

BULLDOG-PAINTS AND VARNISHES

BULLDOG-brand.

F. A. v. D. LOO & Co
Shanghai

## IS THE PAINT OF THE FUTURE

## For Out and Indoor Work of Every Kind

RAILROADS
TRAMWAYS
BARRACKS
RESIDENCES
SCHOOLS
YACHTS
STEAMSHIP
COMPANIES
HOSPITALS
HOTELS
BUILDINGS
FACTORIES

A NEW and perfected Veluvine paint superseding Varnish, with remarkable spreading, elastic and weather resisting properties. **One coat equals two coats of common paint and one of varnish.** Sanitary. Washable. Will not crack. Will not peel. Will not blister. Will not fade. Twelve months' guarantee given by the manufacturer. Saves Time, saves Labour, saves Varnish, saves Money.

**ONE GALLON PROPERLY APPLIED WILL COVER ABOUT 90 SQUARE YARDS**

Veluvine paint spreads like best wearing body Varnish, and **dries slowly** in the same way, but is far more elastic, and therefore does not crack, as even the best Varnishes will. **Veluvine paint is not an enamel,** and should not be compared with enamels for price. It is much **more economical, more durable** and covers **more surface**. Veluvine paint is the only satisfactory paint for Galvanised Iron and Galvanised Steel.

Any colour not included can be matched. Special quotation on application with sample of exact tint required.

## Prices Quoted on Application

General Agents for CHINA, JAPAN, SIAM

# F. A. VANDER LOO & CO.

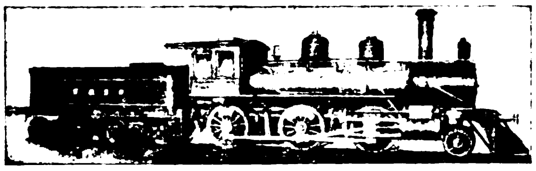
2 Jinkee Road ❧ Shanghai, China ❧ Telephone 2530

*Agents for the Philippines: Messrs. SPRÜNGLI & CO.*

# Baldwin Locomotive Works

Principal Offices and Works:
PHILADELPHIA, PA., U. S. A.
Cable Address: "Baldwin, Philadelphia"

*Agents for China:* *ARNHOLD, KARBERG & CO.*
*Agents for Japan:* *FRAZAR & SALE, Yokohama*



Builders of
**LOCOMOTIVES**
of every description

Including
**ELECTRIC LOCOMOTIVES**
**ELECTRIC TRUCKS**

# Standard Steel Works Co.

HARRISON BLDG., PHILA., PA., U. S. A.

SOLID FORGED AND
ROLLED STEEL WHEELS

STEEL TIRED WHEELS, FORGINGS

STEEL AND IRON AXLES, CASTINGS

ELLIPTIC AND HELICAL SPRINGS

THE greatest care is used in selecting, curing and smoking Swift's Premium and ◇ Hams and Bacon to have every piece firm, tender, juicy and delicately flavored.

The Hams and Bacon are inspected by U. S. Government Inspectors, then enclosed in hermetically sealed "Sealtite" wrappers for export, which preserve the meat and insure a minimum of mould and shrinkage.

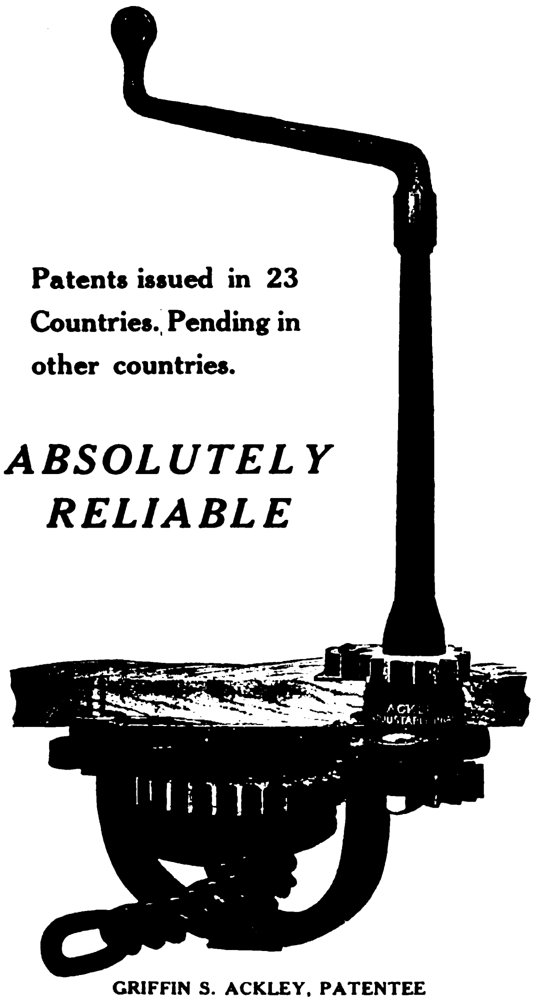
After a journey of thousands of miles these fine smoked meats are wholesome, fresh and clean as when they started.

Swift's Premium Hams and Bacon are the finest Smoked Meats prepared for market. That high standard of quality is constantly maintained.

Swift & Company also pack pork and beef in barrels for export, in cuts to meet the requirements of the trade. Full information may be obtained by addressing

Swift & Company, U. S. A.

ORIENTAL HEADQUARTERS
SWIFT & COMPANY . . . . . No. 32 Nanking Road, Shanghai
WM. H. ANDERSON & CO., . . Foot Santa Cruz Bridge, Manila



**Patents issued in 23 Countries. Pending in other countries.**

***ABSOLUTELY RELIABLE***

GRIFFIN S. ACKLEY, PATENTEE

# THE ACKLEY ADJUSTABLE BRAKE

**Adapted to all kinds of Cars. As Service or Emergency Brakes**

Takes up slack Chain quickly. *Powerful*, Easily installed. All moveable parts revolve on roller bearings which gives ease of action and quick release.

Full information or trial Brakes on application to any of the following Agents:—

**FRANK L. STRONG**
Agent for Manila, P. I.

**CHINA GENERAL ENGINEERING CO.,**
Agents for China, Shanghai.

**SALE & FRAZER LIMITED,**
Agents for Japan, Korea, and Manchuria, Tokio.

AUSTRALIAN AGENCY:

## R. W. CAMERON & CO.

Sydney, Melbourne, and Wellington

Kontinentale Bremen, Ges., M. B. H. Lankwitz. Berlin.
Schmassmann & Co., 110 Bahnhofstrasse, Zurich.
C. Dubbelman, 45 Rue de la Caserne, Bruxelles.
G. S. Albanese, Ingenieur, 62 Rue Saint-Lazare, Paris.

OR DIRECT TO

**BRITISH ACKLEY BRAKE CO.**
Westinghouse Building, London, W. C.

**ACKLEY BRAKE COMPANY**
50 Church Street, New York City, U.S.A.

# THE FAR EASTERN REVIEW

COMMERCE ❁ ENGINEERING ❁ FINANCE

VOL. VII. MANILA, P. I., SHANGHAI, AND YOKOHAMA, OCTOBER, 1910 No. 5.


## FORMAL OPENING OF THE BRITISH SECTION OF THE KOWLOON=CANTON RAILWAY

The formal opening of the British Section of the Kowloon-Canton Railway by H. E. Sir Henry May, K. C. M. G., Officer Administrating the Government, took place on the afternoon of October 1, at Kowloon, on a vacant lot in front of the post office in the presence of a large number of officials and citizens of the colony. A guard of Indian troops surrounded the platform and the Mahratta band was in attendance. On the platform accompanying His Excellency were Lady May, H. E. Major General Broadwood, H. E. Wei Han representing the Viceroy of Canton, The Hon. W. Chatham, C. M. G., Director of Public Works, The Hon. Murray Stewart, the Hon. E. Osborne, A. H. Harris, Esq., Commissioner I. C. Customs, Colonel C. W. R. St. John, E. S. Lindsay, Esq., General Manager of the British Section, Kowloon-Canton Railway, The Hon. Wei Wuk, The Hon. J. W. Jameson, C. M. G., H. B. M. Consul General at Canton, and Captain Garnett, A. D. C. to His Excellency.

Manager Director E. S. Lindsay presided and in introducing His Excellency, Sir Henry May, gave a short review of the history of the line which is of special interest and by courtesy of the *Daily Press* we reproduce it as follows:

"Your Excellencies, Ladies and Gentlemen: We are assembled to-day to send forth on its prosperous career the latest offspring of your prolific colony. For the past four years the up-bringing and education of the child has been proceeding in the New Territory, and although during this period the youngster has not been altogether free from infantile troubles, severe chills from typhoons, a little dyspepsia now and then, and other ills that a young and growing railway is heir to, its sound constitution has pulled it through, and with sinews of steel it stands before us a promising youngster full of "go" and ready to start on the journey of life. Even the most prosperous careers have their set backs and it is not to be expected that our young friend will have an exception, but its parents and guardians are not hysterically inclined, and as long as it keeps steadily on its way, and refrains from going off the track—even occasionally—there is no reason to doubt that it will eventually settle down into regular and comfortable practice, and amply repay those who have done so much for it. And as in the life of all union is desirable, we will hope that ere long a suitable one will be forthcoming from across the frontier. There may be some in this assembly who may assert that they travel the fastest who travel alone, but I would remind them that it is equally true that they who travel fast travel light—and that in this case unity means strength in bearing each other's burdens, and the prosperity of the countries which union represents. In the year 1898 the British and Chinese Cor-

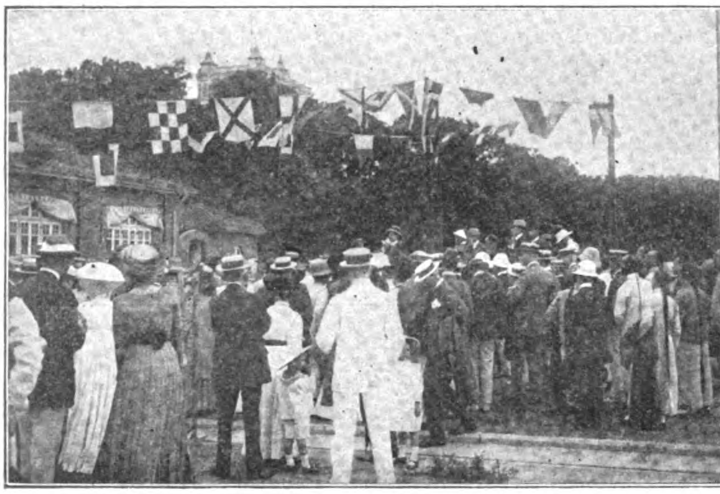
SCENE AT THE KOWLOON TERMINAL OF THE BRITISH SECTION SHOWING FIRST TRAIN ABOUT TO LEAVE

poration obtained a concession for the construction of a railway between Canton and Kowloon. Much delay ensued in negotiating with the Chinese Corporation for the construction of the Chinese Section and it was not till 1905 that circumstances justified the commencement of the construction of the British Section. After protracted negotiations the agreement for the Chinese Section was signed by the British and Chinese Corporation on the 7th March, 1907, and shortly after the construction of that Section also was commenced. A good deal has been said off and on about the cost of the railway—railways like this one which are intended for the development of a district usually do cost a good deal, and until that development is accomplished, the traffic must necessarily be slight. The original intention is liable to be lost sight of, when, after a railway is finished, traffic sufficient to pay for the interest on its cost is not immediately forthcoming. In order to give you some sort of idea as to whether the cost has been excessive or not it will be well to have a brief and general description of what the enterprise really comprises. The length of the railway is 22 miles between the Buffer Stop at Kowloon and the Bridge over the River at Lowu River at Lowu. At this end there is a Reclamation 41 acres in area extending between the Deep Sea Frontage known as Blackhead's the purchase of which is also included in the capital cost of the Railway and the new Gascoigne Road at Hung Hom. Along the frontage of this there will be room for three Deep Sea Berths where ships can come alongside jetties. The Railway has had to provide for extensions of Public Works which the growing nature of Kowloon and Hung Hom and Yaumati demands. For 16 miles the railway runs through deep cuttings and on high banks where no other route was practically possible and above all 1¾ miles of the alignment is in tunnel, an abnormally high proportion. In addition to this the capital account has had to bear interest during construction, home charges and loss of exchange which together amount to close on $800,000. The cost of tunnelling has been very moderate and of this there can be no sort of question. The cost of the reclamation works out to about 50 cents a square foot and compares well with the prices we have had to pay for land adjacent. The rates for earthwork and concrete are distinctly reasonable and the rolling stock has been supplied at a low tender. Taking then the cost of the enterprise when it is finished at $12,000,000, let us first deduct therefrom the cost of that portion of the reclamation which does not form part of the Railway proper about $600,000 (I am speaking in general terms). The cost of the deep sea berth at Blackhead's also about $600,000. The cost of the tunnels $3,700,000. The proportion of interest and home charges due to the above $550,000 and with about $50,000 for a few other items, we get a sum of about $5,500,000 to be subtracted from $12,000,000 which gives $6,500,000 as the cost of 20½ miles of untunelled railway inclusive of workshops and equipment. Now if you were to add another $1,000,000 to this amount you could convert the Kowloon-Canton Railway into a doubled line along these 20½ miles and the cost thereof would work out to about $370,000 per mile as a doubled line of Railway of a very heavy nature. If however you prefer to judge it as a single line and to make due allowance on the $6,500,000 say 25 per cent. because all the cuttings and most of the banks and nearly all the bridges have been built for a double line you will get the cost of the single line of railway at $4,925,000, or $240,268 per mile and I leave it to the *cognocenti* to judge whether this figure compares favourably with the cost of similar work elsewhere. For my part I am sure it does. Too much of your time has I fear been taken up and I will therefore refrain from worrying you with any more figures of traffic possibilities. (Applause.)

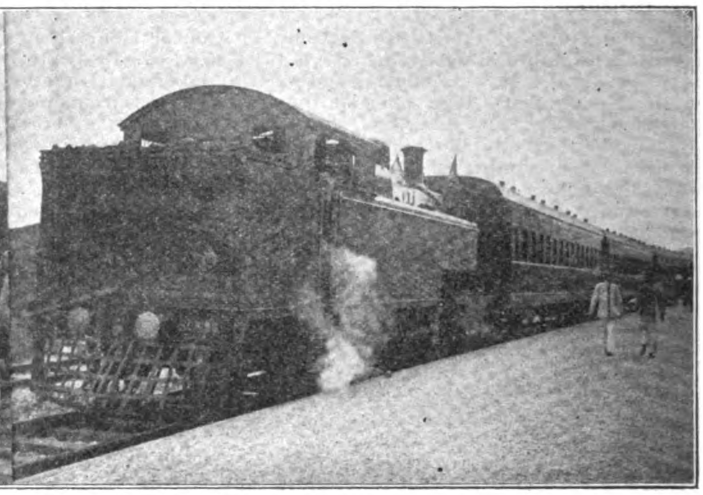
"So I will now ask His Excellency to declare the British Section of the Kowloon-Canton Railway open for general traffic." (Applause.)

His Excellency, Sir Henry May, said:

"Your Excellencies, Ladies and Gentlemen, Mr. Lindsey has briefly sketched the history of the railway which I am asked to open to-day. I endorse his hope that the day is not far off when the British and Chinese Sections of this railway will be linked together and the line thrown open to the public for through traffic between Kowloon and Canton. Then will be the time to dwell on the benefits which this line will bring to us by linking our Colony to the neighbouring province of Kuangtung and by forming a part of the gigantic railroad which we hope will soon extend without a break from Kowloon to Calais. But, as to-day we celebrate the opening to public traffic of the British Section only, I propose to confine myself entirely to a brief consideration of the advantages which, I confidently expect, will result from the construction of the 22 miles of railroad now completed. This railway will serve to introduce many of you to district beyond the Kowloon range of hills. That district has only been under British rule for a little over 11 years. Its development on the broad and easy lines traced by that wise and farseeing administrator, Sir Henry Blake, assisted by Mr. (now Sir) James Stewart-Lockhart, who seems to have a genius for organising economical administration, has been somewhat striking. It was necessary in the first place to incur somewhat heavy expenditure on police protection in order to make the *Pax Britannica* respected. This Sir Henry Blake rightly regarded as our first duty. Next it was necessary to survey the country and to investigate title to land, settle them and draw up an accurate rent roll. In this work Mr. C. McI. Messer and Mr. C. Clementi rendered invaluable service. To the erudite knowledge of the latter of the Chinese law of land tenure the Colony owes the fact that fraudulent claims to large and valuable areas of foreshore extending from Lyeemun to Kowloon City and from Shamshuipo to Laichikok were disposed of in the Courts, the land being rescued for the Colony to the great benefit of the taxpayers. The number of holdings demarcated and adjudicated upon in the mainland district was 281,352. Simultaneously the work of administration had to be organised. It has been carried on in an economical manner by two officers at Tai Po, the Magistrate (now called District Officer) and the Assistant District Officer. In the former capacity the district has been fortunate in enjoying the services of Mr. W. R. Hallifax, who has displayed great tact without loss of the necessary firmness in handling the population. The latter post has of recent years been ably filled by Mr. S. B. C. Ross. The principal source of expenditure has been, and still is, the maintenance of an adequate police force. Much of the success that has been achieved by the administration is due to the efficiency and tact of the police, whose presence the inhabitants now thoroughly understand and appreciate. In the suppression of robberies by gangs of armed men belonging partly to the district and partly to the contiguous Chinese Territory, the police have benefited by the friendly and effective co-operation of the Chinese officials across the border. The revenue collected last year in the mainland district you are about to visit from Land Tax, or Crown Rent as we call it, was $81,000, and from all sources, including opium and liquor, $158,000. This much more than covers the cost of administration and leaves a surplus for the development of the country. But if the development of the district has been satisfactory up to the present time, I venture to predict that it will be much more rapid and much more pronounced now that it has been made easy of access by means of this railway. The administration will be greatly facilitated, trade will be stimulated and the condition of the inhabitants must be improved by their being brought into close connection with the large market which Hongkong affords. We do not expect that this line by



H. E. SIR HENRY MAY MAKING ADDRESS ON OCCASION OF OPENING OF BRITISH SECTION



PASSENGER TRAIN. CARS CONSTRUCTED AT THE HONGKONG AND WHAMPOA DOCK CO.'S SHOPS

itself will pay remunerative interest on the large capital spent on its construction. But the indirect beneficial results to the Colony will, I think, be such as to recompense it in some measure for the large expenditure that has been incurred. All of us, Europeans and Chinese alike, have a feeling how an historic Kowloon tiger would feel if he were caged. We want more elbow room. We need more frequent change of environment. This railway will enable some of us to take short holidays from our work—and from each other. (Laughter.) Others again will prefer to lead the simple life in the country, visiting Hongkong daily for their business. I expect, therefore, to see in course of time a great revolution in the social condition of the Colony. The country to which this railway will introduce you is very beautiful. In the russet garb it assumes in winter, it will remind some of you of your far distant Highlands; the emerald mantle that it dons in summer rivals the emerald dress of comely Erin; the resounding ocean which washes its shores stirs the memories and the hearts of Englishmen. There you may taste of one of the sweetest joys in life—the enjoyment of Nature's beauty. And there too our Chinese citizens may change the restrictions which life in a large city is always subject to for the comparative freedom of a home in the country. This railway will in short bring to the inhabitants of the district, if it does not bring greater riches, it will bring what is better than gold and silver—more enjoyment of life and greater contentment of spirit. To these advantages will succeed a better understanding of the inhabitants of the district now opened to you, and in course of time closer intercourse and more intimate relations with the officials and people of the great Empire on your borders. The work that is this day consummated is an important step in the material improvement of the Colony which Providence has entrusted to our keeping. Let us not in this hour forget the men who have contributed to the work—Sir Matthew Nathan, whose foresight materially assisted in the provision of funds to defray its cost and who initiated the work; Sir Frederick Lugard, under whose able control the work has been carried out; Mr. G. W. Eves, Mr. E. S. Lindsey, and their staff of engineers, who have completed a work which is a credit to British engineering. May this undertaking, under the guidance of Almighty Providence, bring to our dearly loved Colony increased prosperity and happiness. With this prayer on my lips I declare the British Section of the Canton Kowloon Railway open for traffic." (Applause.)

The British Section of the Kowloon-Canton line connects Hongkong with the Chinese boundary covering a distance of 22 miles while from the boundary to Canton is 89 miles. The concession for the construction of the Kowloon-Canton Railway was granted the British Chinese Corporation in 1898 but no progress was made for years by the concessionaires. In 1905 the American-China Development Company retired from active interest in the construction of the Canton-Hankow Railway and the plans for an extensive terminal at Canton was abandoned. In redeeming the concession, the Chinese were obliged to secure outside assistance and the commercial interests of Hongkong realizing that this was the opportunity to strike a bargain for traffic connection advanced the sum of £350,000. The survey of the British section was at once undertaken and by the end of 1905 two and one-half miles of embankment and a survey for final location were completed and the title of the land for the right of way resumed by the Crown. The first rough estimate of cost for this line was submitted by Mr. Bruce and amounted to $5,053,274 and did not include the provision for workshops buildings, rolling stock, etc. In June, 1907, the Chief Resident Engineer submitted a more carefully prepared estimate which footed up $8,003,642, but did not include provision for rolling stock or workshops, etc. In December of the same year an amended estimate amounting to $9,860,283.83 was submitted that included the cost of rolling stock and of the resumption of the deep sea wharf near Blackhead Point but did not provide for workshops or for terminal site. In May, 1909, another revised estimate was submitted which amounted to $11,004,128 which covered all items, with the exception of sufficient funds to cover all of the resumption charges.

The last estimates submitted in 1910 included all items to cover the completion of the road and amounted to $12,371,495.46, the excess of $1,367,367.46 over the 1909 estimate included one large item of $913,922.67 covering interest and loss of exchange not previously referred to. The balance of the increase in cost is found in the following items:

Estimates for earthwork, $319,403.95; tunnels, $311,320.50; roads, $35,220 16; major bridges, $138,729.05; minor bridges, $10,522.19; culverts, $10,522.19; boundary fencing, $7,302.23; telegraphy, $3,060.75; home charges, $50,000 amounting in all to $875,558.83.

Savings on buildings, $139,998.47 and construction of plant, $132,115.57 with anticipated sales for the year of $150,000 in all $420,114.04, reduced the total increase to $453,444.79.

It might be said that the difference in the several estimates has been subject for much discussion and not a little criticism from those not conversant with the conditions under which the first and second estimates were made. The difference between Mr. Bruce's estimate of $5,053,274 and the last estimate of $12,371,495.46 amounting to $7,318,221.46, however, has been well accounted for and the expenditure will no doubt be fully justified when the benefits of the line are realized. As explained previously the 1905 estimate was in the rough and made no provision for rollingstock, workshops, etc. Indeed, the first real estimate based on the initial work was that of the Resident Engineer in June, 1907, which amounted to $8,003,642.63.

VIEW OF LOWU STATION AT THE BOUNDARY LINE BETWEEN BRITISHAND CHINESE TERRITORY AND TERMINAL OF BRITISH SECTION

The difference between that and the last revised 1910 estimate of $12,371,495.46 amounted in all to $4,367,852.83. The increase over the June, 1907, estimate for tunneling alone amounted to $1,607,730.19.

Some idea of the magnitude of this work may be gathered from the following figures:

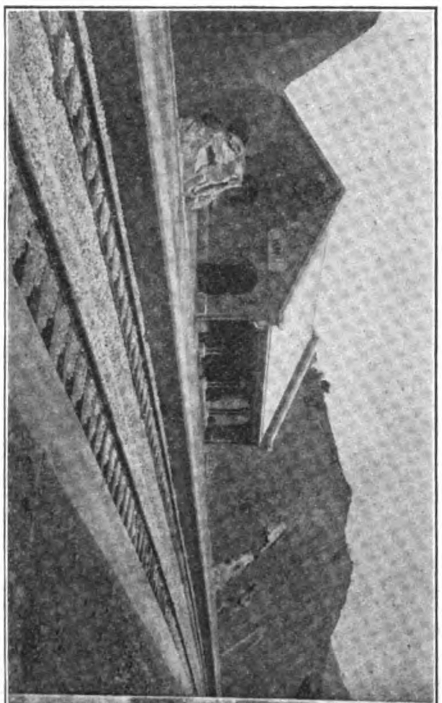
*Tunnel No.* 1.—150 feet in length cost $507.42 per foot, in all $76,113.16.

*Tunnel No.* 2, *Beacon Hill.*—7,212 feet in length, at $455.28 per foot, in all $3,283,503.99.

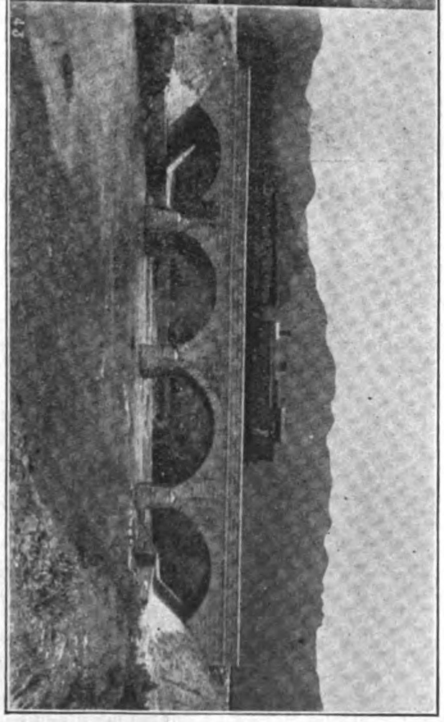
*Tunnel No.* 3.—329 feet in length at $247.48 per foot, in all $81,420.87.

*Tunnel No.* 4—170 feet in length, $400.92 a foot, in all $68,156.23.

*Tunnel No.* 5.—923 feet, $327.14 a foot, in all $301,950.94.



TYPICAL STATION ON BRITISH SECTION KOWLOON-CANTON RAILWAY



TYPICAL BRIDGE CONSTRUCTION ON THIS LINE

All these tunnels were driven wide enough to accommodate double track with the exception of the Beacon Hill. Two of them were driven through solid rock and the balance through disintegrated granite and solid rock alternating. The arches of these tunnels are all 35 feet.

In the tunnel work great difficulty was met in securing labor, and the formation was of such a character that the engineers were often confronted with new and embarrassing conditions that could not be anticipated. It became necessary to import labor from India and, later, Chinese returned from South Africa were secured. Italian contractors undertook parts of this work. Compressed air plants were installed for pumping and drilling and special railways were laid to carry off the dirt and rock to the embankments and fills.

The items making another large increase in the 1910 estimate compared with June, 1910, have reference to shops, rolling stock, etc., interest and exchange, etc., and amounting to ₱1,474,306.20, were not included in any former estimate.

The cost of acquiring the necessary land exceeded the June, 1907, estimate by $1,056,179.20, but this was largely due to the vagueness of the original plans for land resumption. No provision was made for terminal site at that time.

The other important items where increases were necessary are: Earthwork, $187,075.30; bridges and culverts, $161,656.29; buildings, machinery, etc., $88,633.75; general charges, $65,000.85, and roads, $37,700.

The principal saving included $132,182.47 on constructions and $36,882.75 on ballast and permanent way. The following comparative table issued March 7, 1910, is of special interest at this time:

# KOWLOON-CANTON RAILWAY

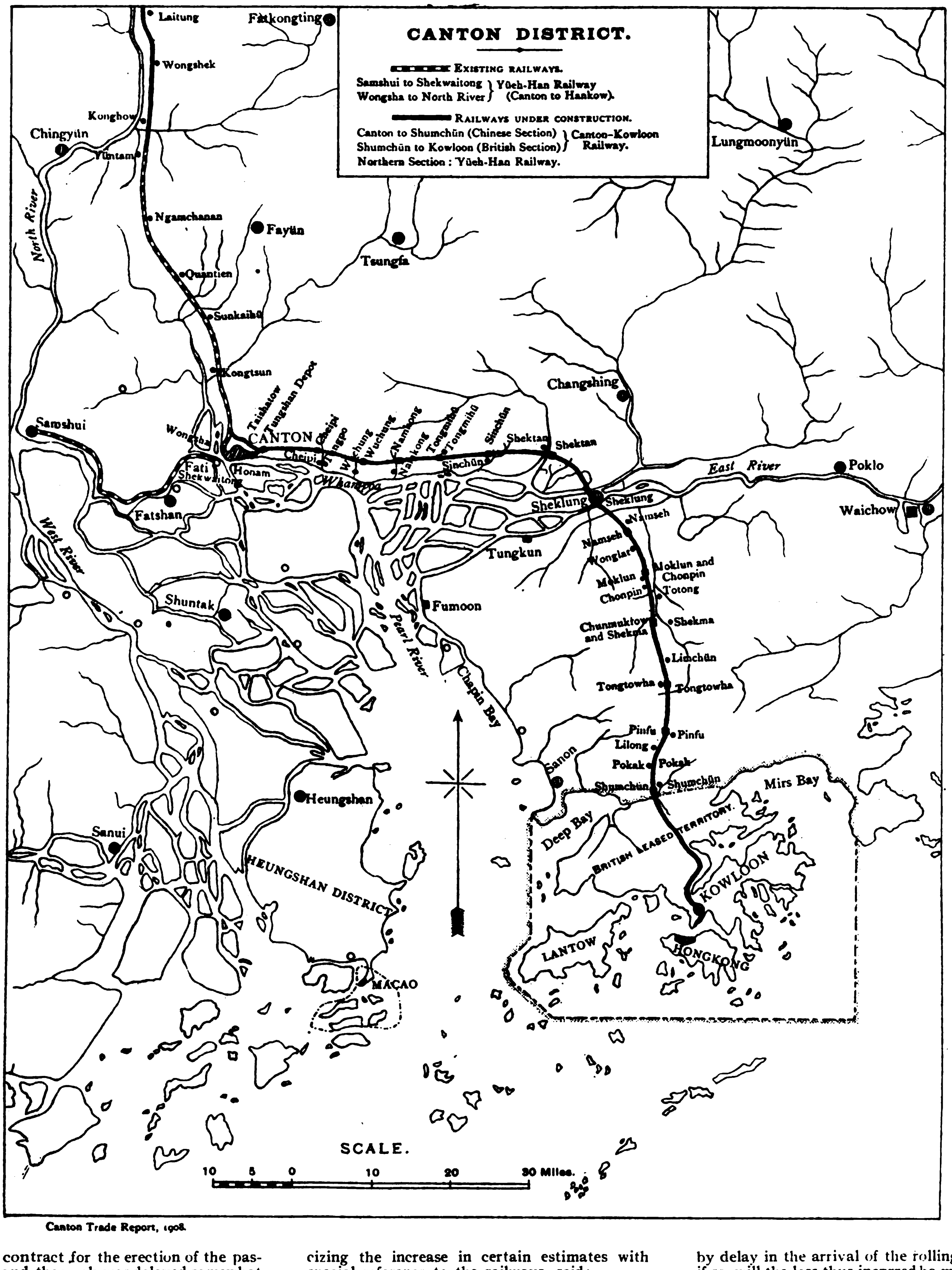
## (BRITISH SECTION)

| Main Head. | Sub-Head. | Estimate of June, 1907. | Revised Estimate of 1909. | Further Revised Estimate of 1910. | Variations between Estimates of 1909 & 1910. | Expenditure to 31st Dec., 1909. | Anticipated Expenditure to the end of Construction. | Grand Total. |
|---|---|---|---|---|---|---|---|---|
| I.—Survey | ...... | $45,000.00 | $42,277.65 | $42,277.65 | ...... | $42,277.65 | ...... | $42,277.65 |
| II.—Land | ...... | 139,700.00 | 1,195,879.20 | 1,195,879.20 | ...... | 762,863.55 | $433,015.65 | 1,195,879.20 |
| III.—Formation | (*a*) Earthwork | 2,400,504.70 | 2,268,176.05 | 2,587,580.00 | $319,403.95 | 2,047,323.04 | 540,256.96 | 2,587,580.00 |
| | (*b*) Tunnels | 2,203,415.00 | 3,499,824.69 | 3,811,145.19 | 311,320.50 | 3,480,248.19 | 330,897.00 | 3,811,145.19 |
| | (*c*) Roads | 82,500.00 | 84,979.84 | 120,200.00 | 35,220.16 | 4,957.63 | 115,242.37 | 120,200.00 |
| IV.—Bridges | (*a*) Major | 585,911.57 | 677,766.36 | 816,495.41 | 138,729.05 | 648,816.92 | 167,678.49 | 816,495.41 |
| | (*b*) Minor | 422,718.11 | 339,604.28 | 350,126.47 | 10,522.19 | 321,793.12 | 28,333.35 | 350,126.47 |
| | (*c*) Culverts | 68,882.00 | 65,243.86 | 72,546.09 | 7,302.23 | 68,721.56 | 3,824.53 | 72,546.09 |
| V.—Fencing | (*a*) Boundaries | 31,813.00 | 39,999.45 | 39,999.45 | ...... | 996.45 | 39,003.00 | 39,999.45 |
| | (*b*) Signs | 396.00 | 400.00 | 400.00 | ...... | ...... | 400.00 | 400.00 |
| VI.—Telegraph | ...... | 26,864.00 | 26,971.42 | 30,032.17 | 3,060.75 | 19,807.47 | 10,224.70 | 30,032.17 |
| VII.—Track | (*a*) Ballast | 154,110.00 | 132,066.54 | 132,066.54 | ...... | 40,093.10 | 91,973.44 | 132,066.54 |
| | (*b*) Permanent Way | 747,032.00 | 732,192.71 | 732,192.71 | ...... | 524,985.83 | 207,206.88 | 732,192.71 |
| VIII.—Stations & Buildings | (*a*) Buildings | 223,396.25 | 449,998.47 | 310,000.00 | 139,998.47 | 58,647.01 | 251,352.99 | 310,000.00 |
| | (*b*) Machinery | 39,560.00 | 40,000.00 | 40,000.00 | ...... | ...... | 40,000.00 | 40,000.00 |
| | (*c*) Furniture | 3,410.00 | 5,000.00 | 5,000.00 | ...... | ...... | 5,000.00 | 5,000.00 |
| | (*d*) Workshops | ...... | 60,000.00 | 60,000.00 | ...... | ...... | 60,000.00 | 60,000.00 |
| IX.—Plant | (*a*) Constructions | 234,067.00 | 234,000.10 | 101,884.53 | 132,115.57 | 505,048.23 | 403,163.70 | 101,884.53 |
| | (*b*) Loco., Tools and Plant | ...... | 50,000.00 | 50,000.00 | ...... | ...... | 50,000.00 | 50,000.00 |
| | (*c*) C. & W. Plant | ...... | 10,000.00 | 10,000.00 | ...... | ...... | 10,000.00 | 10,000.00 |
| | (*d*) Engineering | ...... | ...... | ...... | ...... | ...... | ...... | ...... |
| | (*e*) Loco., Rolling Stock | ...... | 88,000.00 | 88,000.00 | ...... | ...... | 88,000.00 | 88,000.00 |
| | (*f*) C. & W. Rolling Stock | ...... | 309,540.00 | 309,540.00 | ...... | 2,350.00 | 307,190.00 | 309,540.00 |
| X.—General Charges | (1) Salaries | 388,148.20 | 399,720.43 | 399,720.43 | ...... | 337,605.63 | 62,114.80 | 399,720.43 |
| (*a*) | (2) Quarters & Offices | 38,970.80 | 68,495.13 | 68,495.13 | ...... | 67,691.76 | 803.37 | 68,495.13 |
| | (3) Furniture | 10,956.00 | 11,639.61 | 11,639.61 | ...... | 10,981.03 | 658.58 | 11,639.61 |
| | (4) Office Expenses | 13,068.00 | 32,710.93 | 32,710.93 | ...... | 27,893.26 | 4,817.67 | 32,710.93 |
| | (5) Medical | 20,020.00 | 22,319.46 | 22,319.46 | ...... | 20,484.70 | 1,834.76 | 22,319.46 |
| | (6) Home Charges | 123,200.00 | 74,478.29 | 124,478.29 | 50,000.00 | 89,633.22 | 34,845.07 | 124,478.29 |
| | (7) Interest | ...... | ...... | 713,922.67 | 713,922.67 | 251,625.09 | 462,297.58 | 713,922.67 |
| | (8) Exchange | ...... | ...... | 200,000.00 | 200,000.00 | 63,229.01 | 136,770.99 | 200,000.00 |
| (*b*) | Accounts | ...... | 42,843.53 | 42,843.53 | ...... | 29,128.27 | 13,715.26 | 42,843.53 |
| (*c*) | Stores | ...... | ...... | ...... | ...... | 190,297.50 | 190,297.50 | ...... |
| Anticipated Credit | By Sales | ...... | ...... | 150,000.00 | 150,000.00 | ...... | 150,000.00 | 150,000.00 |
| | | $ 8,003,642.63 | $11,004,128.00 | $12,371,495.46 | $ 1,367,367.46 | $ 9,617,499.22 | $ 2,753,996.24 | $12,371,495.46 |

The new rolling stock recently arrived in the colony included two tank engines, six open bogie cars, six covered bogie cars, twenty-six covered four-wheeled cars, ten open four-wheeled cars, and two four-wheeled freight brake-vans. The Hongkong & Whampoa Dock Co., Limited, secured the contract for the erection of the passenger cars and the work was delayed somewhat by the tardy arrival of the steel frame work.

The Hongkong Government considered the advisability of abandoning the railway workshops and placing the work with the large local engineering shops, before the 1910 estimates were adopted, and decided that it would be more economical for the railway to have its own shops. This question was reopened and made the subject of some discussion at a recent meeting of the legislature. Mr. Hewitt, representing the unofficial members, in the course of a speech criticizing the increase in certain estimates with special reference to the railways, said:

"There is only one more matter to which I will refer, the Kowloon Railway. Here again is a question concerning which we would like to have had further information. Again an estimate of eight millions has swelled up 50 per cent., the actual expenditure to date being nearly twelve million dollars. We would ask to be informed how and from whom the material was purchased; if in the open market and at cheapest prices compatible with good material? Has any delay in opening the line been caused by delay in the arrival of the rolling stock; and if so, will the loss thus incurred be made good by those responsible? Touching the workshops, which have not yet been set up, it seems on further consideration a moot point whether a railway of only some 22 miles is justified in incurring the heavy capital expenditure and



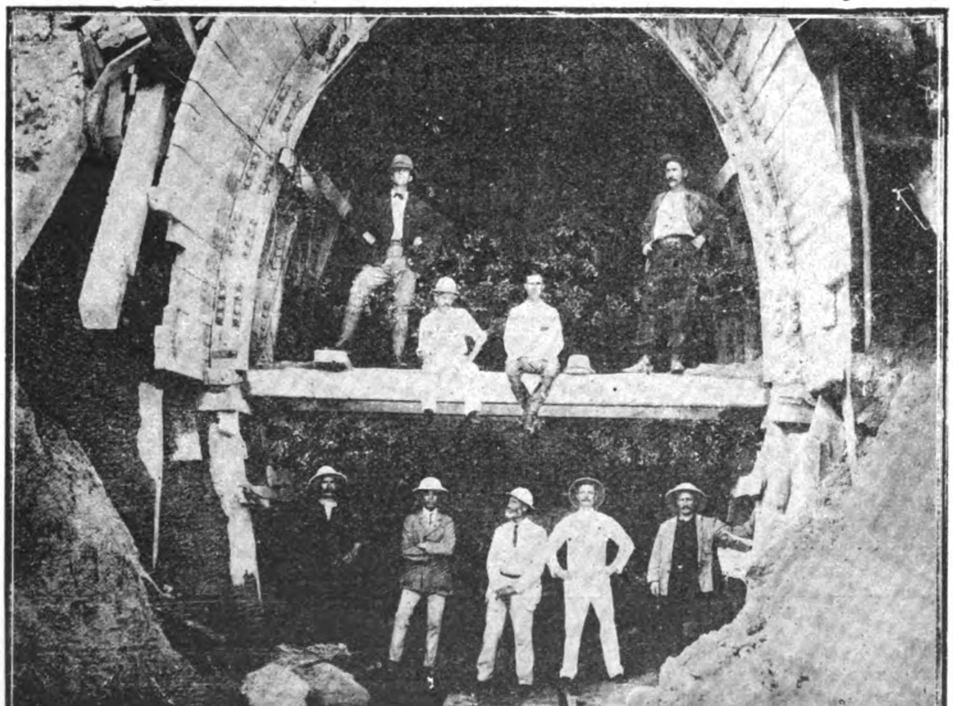

Canton Trade Report, 1908.

the heavy annual cost of running its own workshops. The greater part of the year the staff and machinery must be idle or very indifferently employed. We have two thorough, well appointed dockyards, in addition to the Naval Yard, each fitted with up-to-date machinery and a highly qualified staff. Why should not the Government effect the great saving which must result by abandoning the proposal of having their own workshops, and give these two institutions an opportunity of sharing work which they would no doubt be very glad to secure, and could efficiently perform? If the machinery has already been contracted for this could no doubt be disposed of elsewhere, particularly in view of the great expansions of railway enterprise now being carried out in the Far East. Further information as to the site of the Kowloon Station would also be of great interest. Sir Matthew Nathan proposed to make the station on the eastern side of the peninsula, and for that purpose spent a considerable sum in resuming the site. Later, we understand, it was considered best by the Government advisers to place the station around the corner on the southern side, and for this purpose another large sum of money was spent in acquiring the necessary land. Now, however, it seems the station is to be on the site originally selected by Sir Matthew Nathan, thus fully justifying his decision. It appears to us that the ratepayers are entitled to know how much was paid for these various sites; to what use the Government intend putting the new abandoned site of the station and whether there is reasonable ground for believing that a proper return on the money thus invested can be secured."

Reproduced from the FAR EASTERN REVIEW.
KOWLOON-CANTON RAILWAY, BRITISH SECTION, THE ENGINEERING STAFF

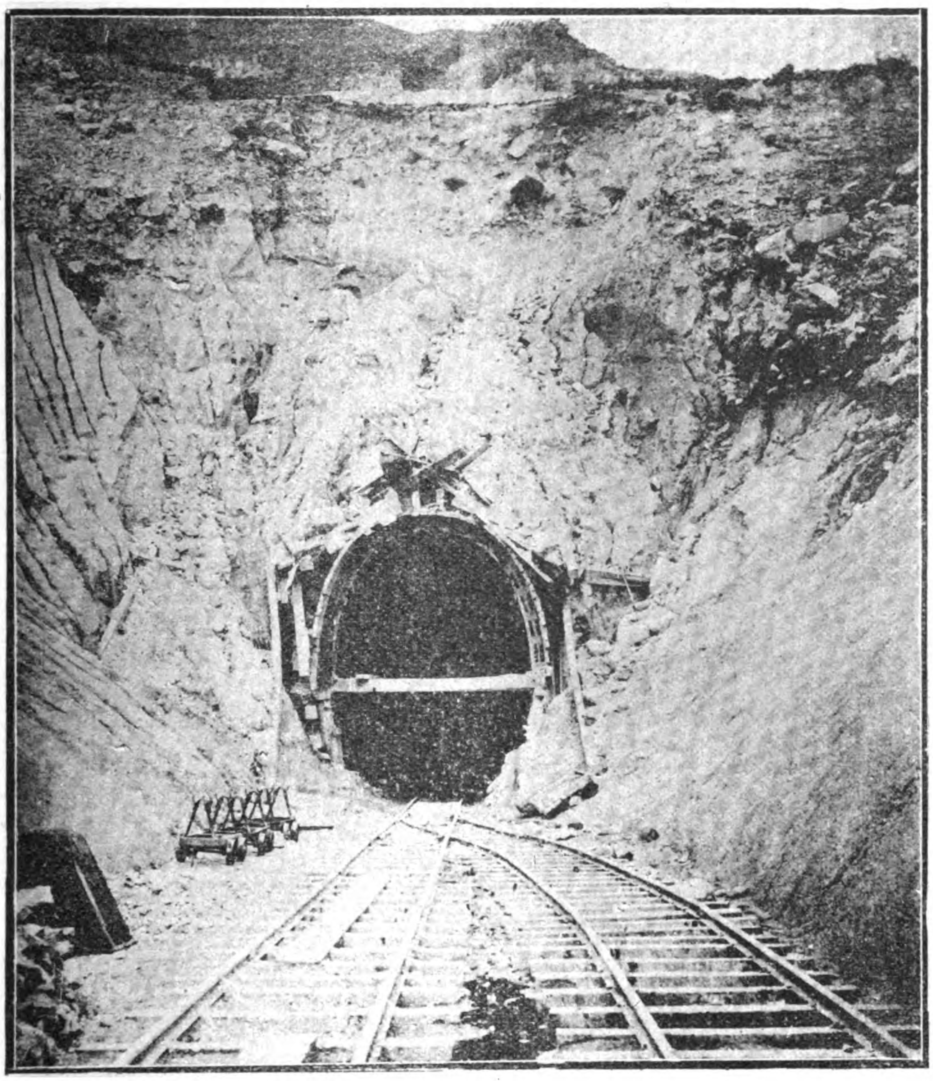
In reply His Excellency said:

"The hon. member made some reference to the railway estimates. I would remind him that in the estimates before us there is no estimate for railway construction. A vote was taken by resolution of this Council early in the year for the expenditure necessary in the current year, and a vote will be taken early next year for the remaining expenditure required to completion. These estimates are only concerned with the open line and stock I may perhaps mention, with reference to his suggestion that workshops were not necessary to the railway, that the Government did not overlook the possibility of dispensing with workshops and getting their work done in some of the engineering yards of the Colony, but after mature consideration they decided that it would be more economical to have their own workshops The hon. member referred to the change in the site of the terminal station. His information on the subject is not quite correct. The site chosen by Sir Matthew Nathan is not the site that has been now fixed upon. Sir Matthew Nathan acquired the land known as Blackhead's Point for the double purpose of forming a railway station and deep sea wharf. There had been a considerable difference of opinion as to where the terminal station should be placed. As I have said, Sir Matthew Nathan wanted to place it at Blackhead's Point. Then it was decided to place it at Tsim Cha Tsoi, and land was acquired for that purpose. Then on further consideration it was decided that to save using that land for railway purposes it would be more economical to revert to a site which was suggested before Sir Matthew Nathan decided on Blackhead's Point, and that is somewhere in the neighbourhood of Gascoyne Road. It is the intention to place the terminal station there, and for the present at any rate to have a flag station at Tsim Cha Tsoi. The result will be that the land which has been acquired at considerable cost at Tsim Cha Tsoi will be available for the Government to dispose of otherwise. I do not think, gentlemen, that there is any point I have left uncovered, but if there is any further information hon. members require they will have every opportunity of obtaining it in Finance Committee."

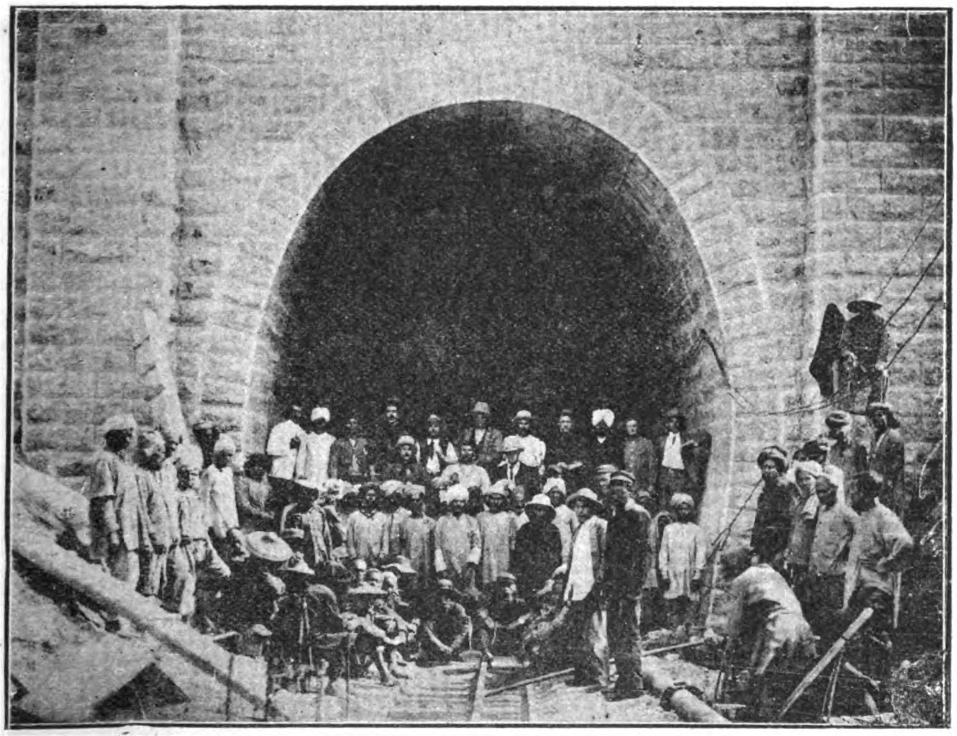


KOWLOON-CANTON RAILWAY, BRITISH SECTION, ENGINEERING STAFF AT TUNNEL HEAD

Provision for a ferry service between the city of Victoria and the railway pier at Kowloon is given attention in a recent issue of the Government Gazette, in the form of an advertisement for tenders with respect to the lease of a site and the construction of a pier opposite Ice House Street. This pier is to have minimum dimensions



KOWLOON-CANTON RAILWAY, BRITISH SECTION, ENTRANCE TO BEACON HILL TUNNEL.



[ Reproduced from F. E. REVIEW.

KOWLOON-CANTON RAILWAY, BRITISH SECTION, FINISHED ENTRANCE TO BEACON HILL TUNNEL

of 150 feet by 50 feet to be built within twelve months, and to maintain the present pier during the construction of the new one.

Upon the completion of the line to Canton and of the railway pier at Kowloon a ferry service is to be maintained that will conform to the time table inaugurated, carrying passengers and mails under proper bonds to insure the satisfactory performance of the terms of the contract. The concessionaire will have the sole right to the railway ferry service from any or all of the three points in Victoria, viz: The pier opposite Ice House Street, a pier in the Central or Western District, and a pier in the Eastern District, or may combine the service from the Ice House Street and Central or Western pier instead of a direct service from each pier to the Kowloon railway pier.

Three properly equipped steamers will be the maximum number required for each service The capacity of these steamers for the pier opposite Ice House Street and the Western or Central pier must have a minimum carrying capacity of 300 passengers and for the Eastern pier a capacity of 150 passengers.

The fares are fixed at adult first class, 15 cents, half fare 5 cents; second class, 3 cents; third class, 2 cents, day service, and 3 cents, night service.

The inauguration of the service will not be required until such time the government is satisfied that the revenue will cover expenses, etc.

It is expected that the Chinese section will be opened to Canton by August next year. Work has been progressing more favorably during the last year and approximately 40 miles from Canton are now open.

With the opening of the British section the construction on the Sanchun end will be expedited by the increased transportation facilities afforded for the forwarding of material. Work trains may proceed from Sanchun as the line is built from that end. The work on the terminal station at Tai Sha Tan has progressed satisfactorily and other building construction is well up to the general progress made.

The large number of bridges in the central division between a point 29 miles from Sanchu and the end of the line open from Canton has involved great expense and much time. Between the bridges, however, construction work is well up and their completion at an early date will bring the open line from Canton to the 50 miles point. By that time it is expected that the 29 miles from the British boundary will have been completed and there is prospect that the time set for the opening, next year, may be anticipated by a couple of months.

The time table put in force, October 1, on the British Section provides trains each way on week days only; one down train on Saturdays and Sundays and a down train running Mondays, Tuesdays and Wednesdays, while in addition to the two up trains, there is one that covers the line every day. This arrangement makes in all seven trains initiated the first week o this month. The time table published in the Government Gazette follows:

DOWN TRAINS.

| No. of Train. | 1<br>a.m. | 3<br>a.m. | 5<br>p.m. | 7<br>p.m. |
|---|---|---|---|---|
| Kowloon, Departure..... | ... | 8:30 | 2:30 | 4:00 |
| Hung Hom, Arrival..... | ... | 8:33 | 2:32 | 4:03 |
| Hung Hom, Departure.. | 5:25 | 8:38 | 2:35 | 4:08 |
| Yaumati, Arrival....... | 5:31 | 8:44 | 2:39 | 4:14 |
| Yaumati, Departure..... | 5:35 | 8:49 | 2:40 | 4:19 |
| Shatin, Arrival......... | 5:47 | 9:01 | 2:52 | 4:31 |
| Shatin, Departure....... | 5:48 | 9:06 | 2:53 | 4.36 |
| Taipo, Arrival.......... | :600 | 9:18 | 3:05 | 4:48 |
| Taipo, Departure....... | 6:05 | 9:30 | 3:07 | 4:58 |
| Fan Ling, Arrival....... | 6:15 | 9:42 | 3:19 | 5:10 |
| Fan Ling, Departure.... | 6:20 | 9:47 | 3:20 | 5:15 |
| Lowu, Arrival.......... | 6:30 | 9:58 | 3:35 | 5:24 |

No. 1 Train runs on Week days only.
No. 3. Train runs on Week days only.
No. 5 Train runs on Saturdays and Sundays only.
No. 7 Train runs on Mondays, Tuesdays, and Fridays, but will not run on Saturdays and Sundays.

UP TRAINS.

| No. of Train | 2<br>a.m. | 4<br>a.m. | 6<br>p m |
|---|---|---|---|
| Lowu, Departure......... | 6:40 | 11 00 | 5 35 |
| Fan Ling, Arrival......... | 6:49 | 11:09 | 5'45 |
| Fan L'ng, Departure...... | 6:54 | 11:14 | 5 46 |
| Taipo, Arrival............ | 7:06 | 11:26 | 5 58 |
| Taipo, Departure........ | 7.16 | 11:36 | 6:08 |
| Shatn, Arrival........... | 7:28 | 11:48 | 6:02 |
| Shatin, Departure........ | 7:33 | 11:53 | 6:23 |
| Yaumati, Arrival......... | 7:45 | 12:05 | 6:35 |
| Yaumati, Departure....... | 7:50 | 12:10 | 6 39 |
| Hung Hom, Arrival....... | 7:55 | 12:15 | 6:44 |
| Hung Hom Departure..... | 8:00 | 12:20 | 6.45 |
| Kowloon, Arrival......... | 8:03 | 12:23 | 6:47 |

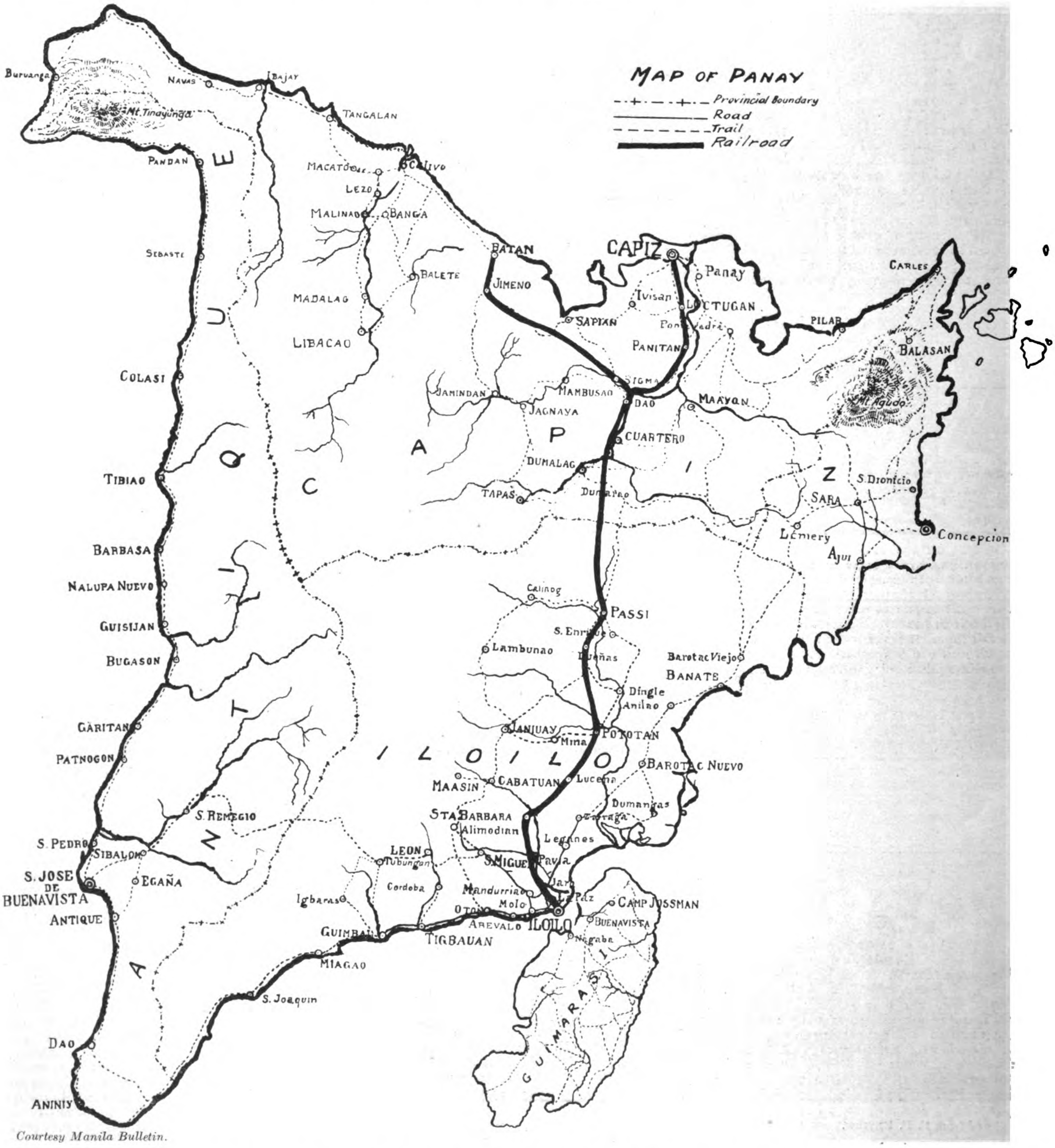
Nos. 2 and 4 trains run on week days only
No. 6 train runs on week days and Sundays.

# Opening of the Iloilo-Capiz Line of the Philippine Railway Co.

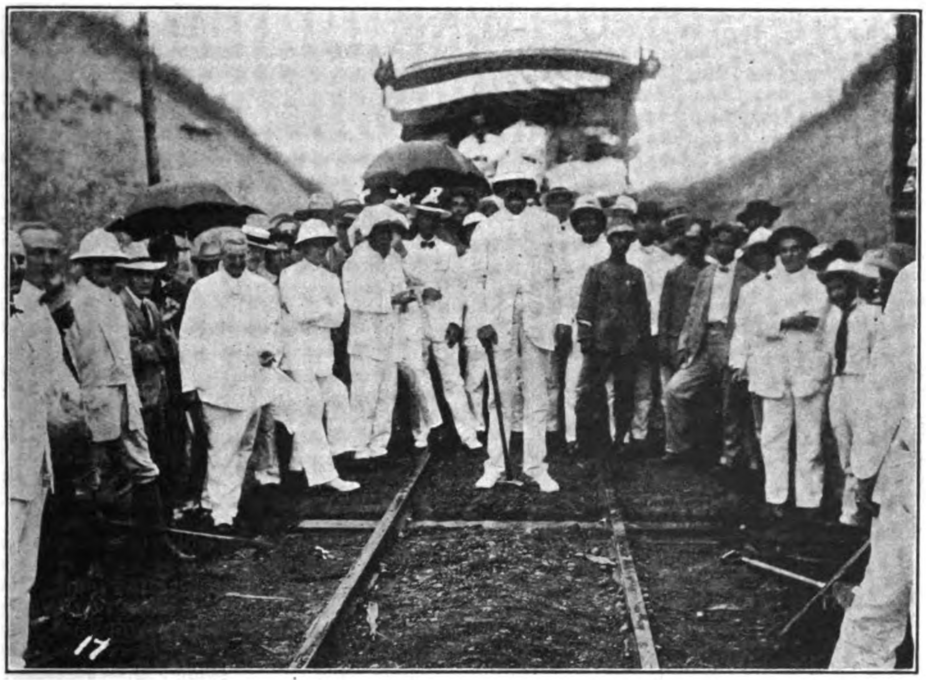
August 28, 1910, marked the beginning of a new era in the history of the development of the rich resources of the island of Panay. It was the occasion of the formal opening of the through line running across the fertile island and connecting the cities of Iloilo and Capiz, by Secretary of War Dickinson, assisted by Governor General W. Cameron Forbes, Governor Altavas of the province of Capiz, and Governor Ruperto Montinola of the province of Iloilo.

The last pile was driven on August 11 at bridge No. 607 between Dao and Calaan, and it was at the approach to this bridge on August 28 that the four golden spikes were driven that inaugurated the railway. To be exact, the rail ends connected at kilometer 96 from Iloilo and kilometer 20.4 from Capiz, the total length of the line being 116.4 kilometers.

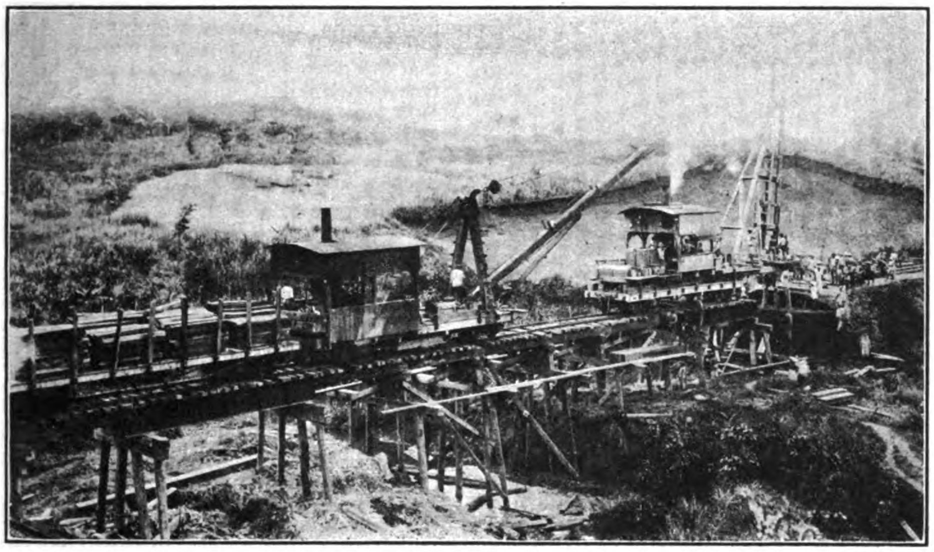
A special train of seven coaches, including a parlor car, first class and second class coaches with baggage car, hauled by a Baldwin locomotive, carried the Secretary of War and party from Iloilo. Secretary Dickinson was accompanied by General Clarence R. Edwards, Chief of the Bureau of Insular Affairs, and Governor General Forbes. Governors Altavas and Montinola joined them at Iloilo. Among the officials of the Philippine Railway Co. present were Mr. W. B. Poland, Vice-President and Chief Engineer; Mr. Alexander Strausz, jr., Auditor; and Mr. Edwin B. Bruce, General Attorney.



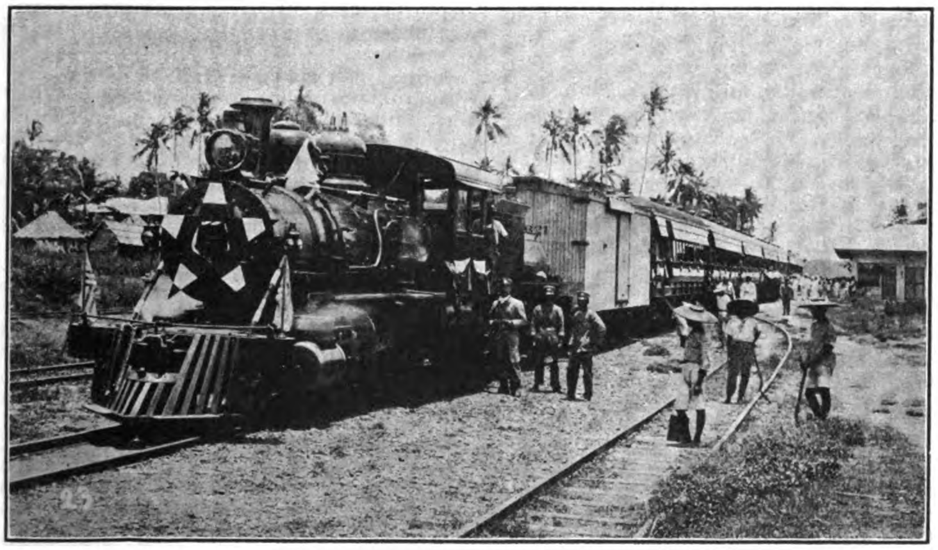
*Courtesy Manila Bulletin.*




SECRETARY OF WAR DICKINSON DRIVING THE LAST SPIKE IN THE PANAY RAILWAY



DRIVING THE LAST PILE AT BRIDGE 607, WHERE CEREMONY TOOK PLACE



SECRETARY OF WAR'S SPECIAL TRAIN AT POTOTAN ON THE PANAY LINE

The first spike was handed Governor General Forbes, who on behalf of the Insular Government initiated the ceremony, and was followed by Governors Altavas and Montinola, whose spikes were driven to place the seal of their approval on the line that bound their respective provinces together. The fourth spike was driven by the Secretary of War, who declared the road formally opened to traffic.

The party then proceeded to Capiz, where a banquet was spread.

In welcoming the Secretary of War to Capiz province, Governor José Altavas said in part:

"This day is doubly memorable because of two important events,—the visit of the official representative of the sovereign country and the inauguration of the railway from Capiz to Iloilo. If the first is important on account of the fact that the Filipino people expect from this visit positive benefits, no less important is the second event, which solves the problem of transportation between the sister provinces of Panay, and it is hoped will initiate an era of prosperity. We also extend our welcome to the Honorable Governor Montinola of Iloilo and his distinguished party from our sister province. I hope that this meeting in this town, which is a true representation of the Panayan people, will be an earnest of our future union." Other speakers followed and among them Governor General Forbes, who said:

"We have today opened a railroad between Capiz and Iloilo. This places upon every person in the provinces of Iloilo and Capiz the duty of making the railroad a success, to justify the government in having assumed the burden of having to pay interest on the immense amount of money which has been spent here in the construction of this line, in order that the companies that have constructed railroads in these islands may be tempted to build other lines and extend their operations in such a way as to bring the benefits that will surely follow, to more people.

"The future of railways in the Visayan Islands is today based on the measure of success which shall be found here in these two provinces. As soon as the success comes which I feel confident will attend the construction of this line, other lines, I am sure, will follow, and I believe that the construction of these lines will be a bond between the different races and the different parts of the Philippine Islands, until all of us will see the day when we have a people in these islands with one common language, with common interests and with common ideals."

The Secretary of War was then introduced and, after referring to the value of railways in opening up and developing a country, illustrated his point by the history of western development on continental America. Continuing he said:

"Your prosperity and the prosperity of the railroad company are bound to go hand in hand. You cannot be prosperous without its being prosperous, and it cannot be prosperous unless you are prosperous. Therefore, there ought to be that wholesome co-operation between the people of the country and the railroad which will bring the country as rapidly as possible to its fullest development.

"There was a time in the history of the American people when in their anxiety to get railroads, improvident powers were granted to them, and the railroads forgot that they were public servants, charged with public duties, and got into an attitude which brought about great hostility at times between certain of the railroads and certain sections of that country. Profiting by that experience, those who drew your railroad laws have guarded against any such possibility, and therefore there is no reason why there should be distrust between the railroad company and the people of the Philippine Islands. Your laws have been so carefully framed that there is no possibility, even if the railroads should attempt to do it, for them to arrogate any dominancy over the people of this country. You do need in this country capital for development. That your people

# VISIT OF AMERICA'S SECRETARY OF WAR TO THE ORIENT

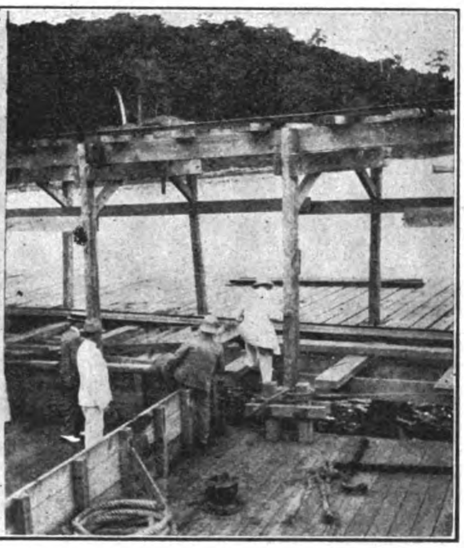
Great significance is attached to the recent visit of the Honorable J. M. Dickinson to the Philippines on official business connected with the dependency, by Americans in the Archipelago while not a little interest has

*Courtesy R. D. Fergusson, Esq., Chief Translating Division.*

PROCESSION OF MORO CHIEFS IN HONOR OF SECRETARY DICKINSON AT ZAMBOANGA

been taken throughout the East in his short sojourn at Tokyo, his welcome at Peking and his return journey through Russia.

It is not often that a cabinet officer of the United States finds time during his tenure of office to enjoy a tour of the globe, but



*Courtesy R. D. Fergusson, Esq., Chief Translating Division.*

SECRETARY DICKINSON AND GOVERNOR GENERAL FORBES GOING ASHORE AT ZAMBOANGA

INVESTIGATING GOVERNMENT COAL MINES AT BATAN

Secretary Taft established the precedent and it was only natural that the most distinguished member of his cabinet should follow his example. And indeed, in Tokyo as in Peking, we find Mr. Dickinson a strong supporter of President Taft's policy as outlined in the latter famous Shanghai speech.

However, it was in the Philippines where his presence served the great measure of good, especially in removing misapprehension as to America's policy there. He found that a large section of the ignorant population had been misled by a few unscrupulous agitators into the belief that as Secretary of War he was empowered to grant them independence. It took some effort to disabuse the native mind of this idea and to impress it with a realization of the restricted powers of a cabinet officer. No doubt, the small agitator group maliciously misled the people in the hope that serious manifestations of disappointment would follow their disillusionment. The Secretary, however, made a triumphant tour and, to the chagrin of the agitator class, received a general expression of loyalty and appreciation of America's beneficent rule. Even those who were misled to expect independence among the Secretary's baggage, demonstrated that they had a fair apportionment of the saving grace of humor in their appreciation of the ridiculous position of the few unwise agitators when the character of the coup was exposed.

Throughout his tour of the islands the Secretary encouraged all classes to freely express their views; to discuss any feature of administration they believed deserving of criticism and to submit complaints. To all he accorded sympathetic attention and promised the fullest investigation. His attitude throughout was in fullest sympathy with the legitimate aspirations of the people and may best be summed up by quoting a few paragraphs in his last address at a popular banquet in his honor given by the Filipino reception committee as follows:

"Whether fortunately or unfortunately, wisely or unwisely, the American people have entered upon such a career in the East as in the judgment of very many of her people makes it impossible for her to assume any attitude in the future toward the Philippines which will not guarantee their independence of all foreign nations. This necessarily involves, if accompanied with local self-government by the Filipinos, much higher development and governmental capacity than would be necessary for a state of complete isolation. It would also mean the maintenance of such relations between the United States and the Philippine Islands as would insure their not becoming involved in international affairs. Unless the United States should adopt the radical policy of severing all relations with and responsibility for the Philippines, the above considerations and the character of development which they involve cannot be left out of view. It must be borne in mind by those who manifest impatience that while from the very force of inertia a present status in a matter so complicated may continue from year to year, no fundamental change is likely to come about until after the whole question shall have been discussed and considered by the American people, and presented as an issue. That has never been done except in a general way. If the question shall be taken up now for solution, it will, in all probability, looking by the lamp of experience, be one of slow progress. It is complicated and the considerations are so vast that they would demand and probably would receive deliberate consideration. Now I have only gone into this discussion for the purpose of inviting the calm and temperate judgment of those who are asking for immediate independence upon the real character of the problem, and for the further purpose of urging that however loud and insistent the cry for independence may be, no one who has the real welfare of the Philippines at heart will neglect, in grasping at what from the conditions will necessarily be a receding shadow for a long time to come, the real substance, which is the development to the highest degree possible under present conditions of everything that will tend to broaden the foundations for fearing Philippine independence.

"I know full well that all of your political parties have the purpose to achieve independence for the Philippines. I respect this ideal, and if I were a Filipino would sustain it, but I would pray to be guided by that wisdom which would help me to lead my people in the way that would certainly achieve it and would erect it as a stable structure upon foundations that would make it perpetual.

"It involves much more than superficial thinkers imagine. It means a reconstruction of the ideas of government which have been familiar to your people. It involves large social problems."

But it was at Zamboanga, where the inordinate ambition of a clique of political agitators found expression in the form of a bold proposal to turn over the direction of the affairs of Moroland to the Philippine legislature, that a climax was reached and a difficult situation adjusted by the Secretary with a firmness that made a deep and lasting impression upon Moros and Filipinos and inspired greater confidence among the foreign and American pioneers in the future of Mindanao. It will be remembered that for several years the transfer of the control of Moro affairs to the Philippine legislature has been agitated by an ambitious group of Luzon natives and these politicians believed that the hour had arrived with the visit of Secretary Dickinson to bring matters to a focus. This they did at Zamboanga at a public session, there being present a large number of Moro chiefs and local Filipino settlers. The speeches of the Filipinos boldly demanding control were interpreted into English and Moro and as the Christian politicians progressed in

---

will have the aptitude and capacity to avail themselves of their opportunities I feel quite confident, from what I have seen in traveling over these Islands.

"While capital should never be put in a position of mastery, on the other hand there should be given every assurance that vested rights will be respected and that people who invest their money will receive fair and just treatment. (Applause.) You have a magnificent country. I have never seen a more beautiful country in my life than that I traveled over in riding from Iloilo to Capiz. (Applause.) Your opportunities, however, for development are restricted, and your men of enlightenment, breadth and foresight should take all proper and wholesome steps to get capital for development to your islands."

outlining their ambition the faces of the Moro chiefs were not good to look upon and it is not improbable that a serious clash would have followed disastrous to the Filipinos had the speeches been made without ample military protection.

The Filipino speakers were followed promptly by several of the Moro chiefs whose unanimous protests were promptly and unequivocal as the following quotations indicate:

Datu Mandi:—"I am here, El Raja Mura Mandi, representing the Moros. Here they are, the whole crowd of them, come to honor the Secretary of War. As I look about, I see far more Moros than the Filipino contingent, and if that is so, that is the reason it is called the Moro Province. (Tremendous applause from the Moros.)

"When first the Americans came here, from the very beginning, whatever they asked me to do I did. I was loyal to them ever. Now I have heard a rumor that we Moros are in the hands of the Filipinos.

"In the Spanish times I was a Datu—(when the Spanish left this became a republic). Then I saw and found out that things did not go well. When a man had two measures of rice one was taken away from him; when a man had two head of cattle one was taken away from him (Applause by the Moros.)

"If the American Government does not want the Moro Province any more they should give it back to us. It belongs to us." (Tremendous applause by the Moros.)

Datu Sacaluran spoke as follows, his remarks being interpreted in English and Spanish:

"I am an old man. I do not want any more trouble. But if it should come to that, that we shall be given over to the Filipinos, I still would fight." (Applause.)

"Ulankaya" Ujaton spoke as follows:

"I am not a civilized man, but I have learned that slavery, killing and stealing is a bad thing. We do it no more. But if after that it should be that we shall be given over to another race, we had better all be hanged." (Applause).

Hadji Nungnui spoke as follows:

"I want to tell the Secretary of War that I am a Samal. I come from the Samal race. The Samal race,—in former days there was not a worse race than the Samal race; and that was in the olden days. Even since the Spanish times up to now we have learned different.

"The Secretary of War must look the matter in the face. We are a different race; we have a different religion; we are Mohammedans. And if we should be given over to the Filipinos, how much more would they treat us badly, when they treated even the Spanish badly who were their own mothers and their own fathers in generation? How did they treat them? Think about it! Think twice! We far prefer to be in the hands of the Americans, who are father and mother to us now, than to be turned over to another people." (Applause.)

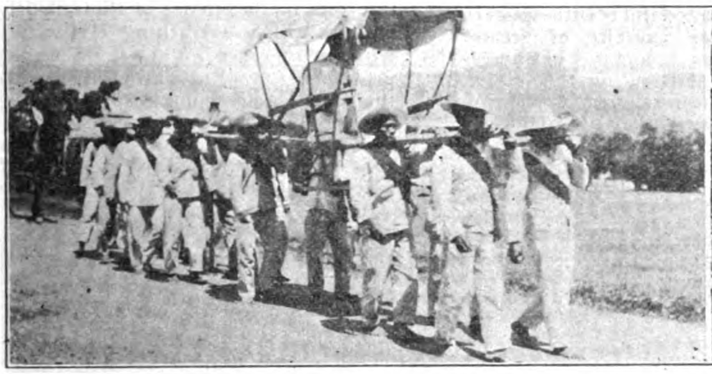
An echo of this incident finds expression in the *New York Sun* which indicates that certain sections of America are becoming better informed of late on the status of the islands and that a healthy sentiment is growing in support of the administration policy there. The *Sun* says:

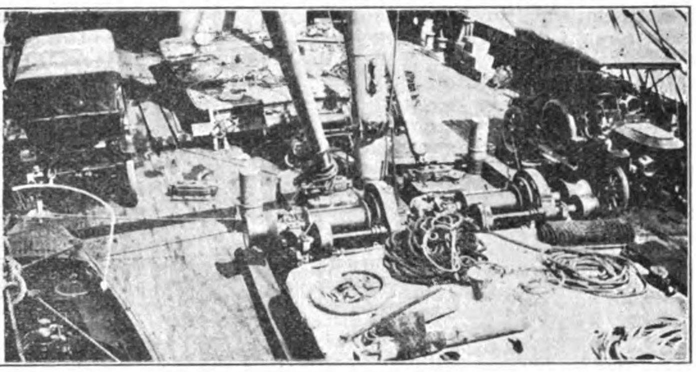
"United States troops have never failed to overwhelm the Moros in battle, and as a people they have been conquered, if not subjugated in that sense in which the term may be used with regard to the Filipinos of Luzon. The Moros have not been tamed, their morals are unregulated, and they remain Mohammedans hating the Christians. Their desire for annexation to the United States when the Filipinos secure independence, as that desire was tumultuously expressed in the presence of General Dickinson at Zamboanga, was merely a crafty rejoinder to the Christian Filipinos. The Malay yields only to force, and must be watched when he seems most submissive and loyal. A Mohammedan of Mindanao will never sit in the Senate at Washington. If in the fulness of time absolute independence is granted the Christians of Luzon and the Filipinos as a people, it will be necessary to keep the American flag flying in Sulu and Mindanao."

Altogether, Secretary Dickinson's visit has not only served to aid to strengthen America's hand in the Philippines and to more firmly establish the cordial relations between America and Japan but his visit to Peking, where he was accorded exceptional honors, has served to greatly advance American interests in the Empire.

Commenting on the Peking visit the *Kobe Chronicle* says:

"At a reception given in his honor by the princes of the imperial family in the palace yesterday, the private parlor of the emperor was used for the proceedings. This is unprecedented in the history of China. The Chinese, learning of Mr. Dickinson's sympathetic attitude to China and his praise of Chinese institutions, are even more satisfied at this than are Mr. Dickinson and his party at the cordial reception afforded them. The influence of the pro-American section of the Chinese government is expected to increase as a result of Mr. Dickinson's visit."





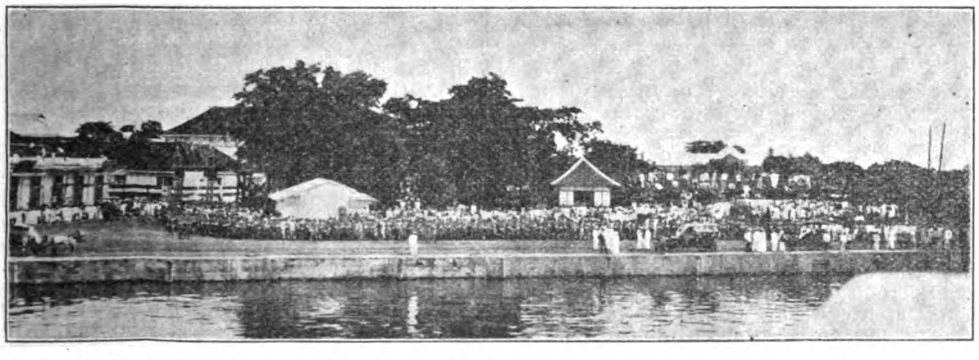
*Courtesy R. D. Fergusson, Esq., Chief Translating Division*

SECRETARY DICKINSON IN PALANQUIN CARRIED ON SHOULDERS OF NATIVES OF IWAHIG PENAL COLONY

DECK OF THE S. S. RIZAL SHOWING AUTOMOBILES AND MOTOR BOAT USED DURING SECRETARY DICKINSON'S TOUR OF THE PHILIPPINES

*Courtesy R. D. Fergusson, Esq., Chief Translating Division*

DATTO PANGLIMA DIKI-DIKI, CHIEF OF TRIBE OF MORO DWARFS ON ISLAND OF UBIAN, SULU GROUP



*Courtesy R. D. Fergusson, Esq., Chief Translating Division*

NEW WATERFRONT AT CEBU WHERE DICKINSON PARTY LANDED.—32 FEET OF WATER ALONGSIDE

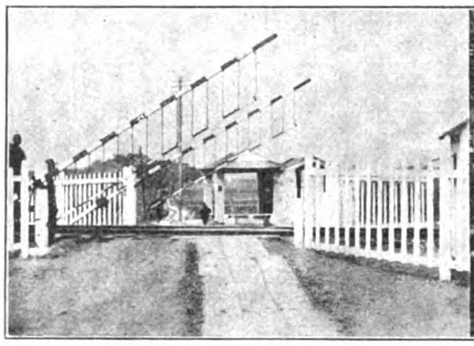
# THE CANTON-HANKOW RAILWAY

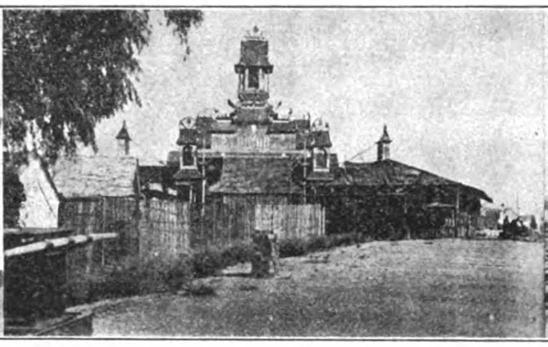
The latest advices from Peking offer little encouragement for an early conclusion of the foreign loan to cover the construction of this line through Honan and Hupeh as well as of the Szechuen line. Indeed, not a few authorities are of the opinion that the agreement pending will never be concluded. One of the reasons advanced is based on the strong sentiment in Honan and Hupeh against foreign money and foreign supervision. So widespread is this feeling that Peking realizes the wisdom of temporizing at this time.

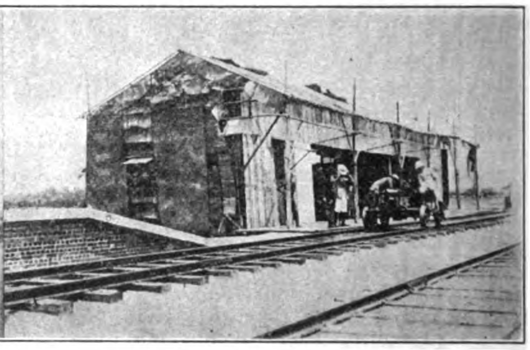
We have some evidence in the recent news items that contracts with foreign engineers would not be renewed by the Kwantung Yueh-Han Railway, that Hunan and Hupeh are not wanting in moral support from Kwangtung. That the three provinces are of one mind with regard to foreign loans is admitted by those familiar with the attitude of the directors of the Kwangtung Company.

Foreigners usually criticize the methods of Chinese in carrying on railway construction especially with respect to organization and direction. In reply the Chinese officials point to the fact that the Chinese people are footing the bill, and if there is delay the loss must affect the Chinese more seriously than the foreigners interested. They say that they realize the necessity of railways and in their own good time they will be built. This attitude is largely due to the lack of tact on the part of many westerners in dealing with Chinese officials.

The western engineer is anxious to enforce his standards and to expedite construction. He is interested in the success of the enterprise and he cannot sympathize with an administration that does not appreciate the various elements that enter into economical direction. He grows impatient of petty local disputes and native prejudice, and soon his manner is expressive of his mental attitude. The Chinese naturally resent what they term lack of consideration and co-operation is then impossible.







*Courtesy J. S. Goodell, First Asst. Engineer.*

CANTON-HANKOW RAILWAY CROSSING GATE AT SAI CHUEN

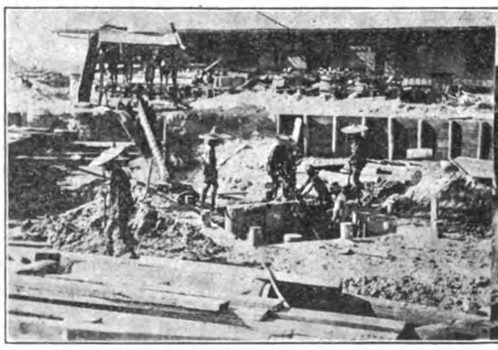
WONGSHA TEMPORARY STATION

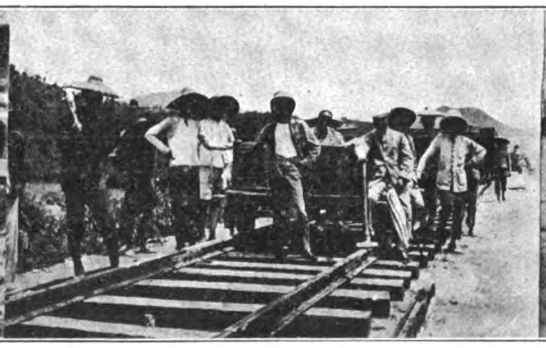
TEMPORARY STATION AT LIN PING

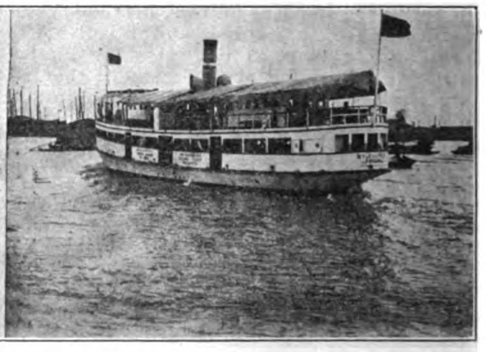
Chinese engineers educated abroad are of the opinion that much of the anti-foreign feeling is due to the lack of consideration shown the wishes of the Chinese and disregard of Chinese customs in conflict with western commercial ideas. The exercise of greater patience and tact with an acceptance of Chinese methods as a basis of understanding, they claim, would greatly assist the foreigner in carrying out just such projects as the Canton-Hankow Railway. If the foreigner would bear in mind that he is not building a railroad for foreigners but for the Chinese and that the latter, after all, are the people who have the greatest interest in the success or failure of such an enterprise, he would go no further than to proffer advice in such a manner as to invite confidence and the greatest possible measure of co-operation.

Chinese sentiment in Hunan may be said to be almost a unit in favor of the construction of the line with Chinese capital. The following communication published in the *Peking Daily News* reflects the spirit that prevails there:

"The question of foreign loans for industrial, commercial, and railway development in China is one of the most burning problems with the Chinese at the present day. It has troubled and is still troubling their minds, and every endeavour is being made to settle it by means that will produce the most satisfactory results both to China and the foreign syndicates concerned. A decade or so ago the people paid scarcely any attention to any question of this kind; now it is on the lips of every thinking Chinese and forms the great theme of discussion in the Chinese Press, which, though of comparatively recent birth, is wielding a mighty influence in moulding public opinion. This striking change in the national spirit of the people would not be regarded as surprising when it is remembered that conditions in the Empire were quite different then from what they are now. Broadly speaking, the Chinese focused their interests in the affairs of their family circles, outside which everything else was regarded with indifference. They held firmly to the principle of minding one's own business. With the rapid changes, not to say progress, she has undergone, however, the China of to-day is not the same China as that of ten or twenty years ago, and as affairs within her borders have reached such a stage that her people are at last compelled to adopt a different policy, they are determined to ascertain what is wrong with their country and to devise methods for its remedy. By establishment of numerous modern schools and colleges in the various provinces, western learning is fast spreading throughout the land, and the people, taught by the experience of past and present events, are beginning to see as they never saw and to think as they never thought before. They are constrained to use their eyes and ears and reasoning faculties in the hope of improving China and of freeing her with the help and advice of foreign friends who are deeply interested in her well-being. Foreign loans of the kind above mentioned are viewed by the Chinese in two different ways; either as one of the harmful agencies or, if properly contracted and the terms of the agreement be strictly adhered to, as a great blessing to the country. China, as pointed out and emphasized from time to time in the Chinese Press, has no objection whatever to legitimate foreign loans—in fact such loans







*Courtesy J. S. Goodell, First Asst. Engineer.*

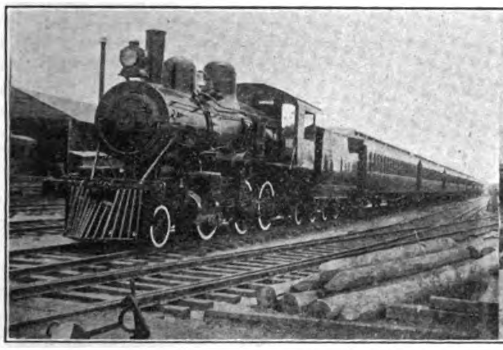
CANTON-HANKOW RAILWAY. CONSTRUCTING CONCRETE CENTER PIER OF TURNTABLE AT WONGSHA

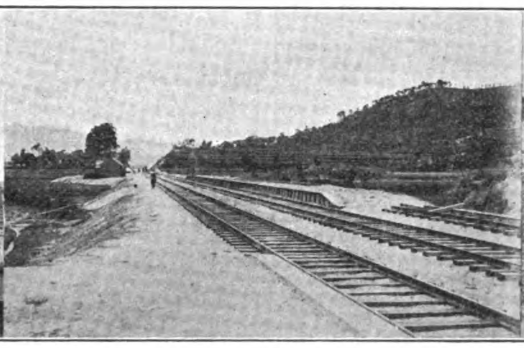
END OF TRACK. SECTION B. RESIDENT ENGINEER SHERWIN ON CAR

FERRY BOAT YUH LEE OWNED BY THE RAILWAY COMPANY OF THE THREE PROVINCES

are welcome; it is only against foreign loans for securing political or semi-political rights or with ulterior motives that China objects to, and should object to with all her power, for, as has often been the case, it would surely involve her in serious trouble which would end in the loss of her rights and interests.

The Chinese have often tried to show what harm foreign loans of the latter description might do to China by citing the case of the late American Development Company, which has left a deep impression on their minds.





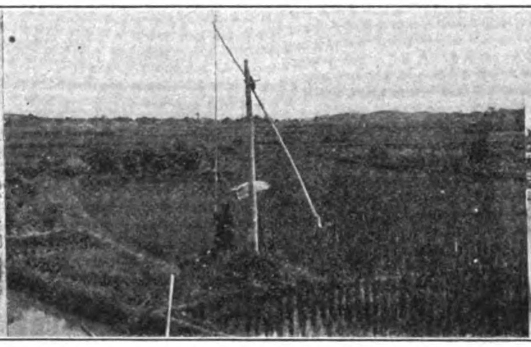
*Courtesy J. S. Goodell, First Asst. Engineer.*

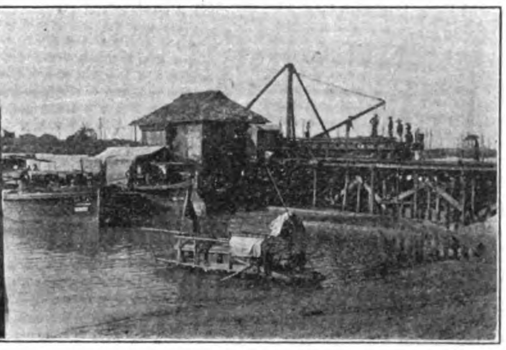
CANTON-HANKOW RY. TRAIN AT WONGSHA

LOOKING NORTH FROM YING CHIN STATION

CONSTRUCTION TRAIN NORTH OF QUAN TIEN

From the day the case was settled, the desire of the Chinese for foreign loans for railway development has been sadly affected, especially among the people of the several provinces directly concerned. Hunan is now recognized as one of the most progressive provinces of China, with many modern schools and colleges for acquiring the new learning, and showing a keen appreciation of things foreign. The Hunanese fully realize the value and importance of railways, the introduction of which in their province they would hail with unbounded delight. As seen in the reports, published in the Chinese papers, that portion of the Canton-Hankow railway which runs through Hunan





*Courtesy J. S. Goodell, First Asst. Engineer.*

RIVER BANK SOUTH FROM OLD WHARF, WONGSHA, CANTON

RICE IRRIGATION AT SAM WAH TIM

OLD WHARF AT WONGSHA

has received the closest attention of the Hunanese because, as they are convinced, it has a vital bearing on them. They regard it as something affecting their life and death, and are determined to leave nothing undone until their object of building it with Chinese capital is attained. They have made strong representations to the Government that it must be built with Chinese capital at any cost. They firmly believe that right is on their side, and are endeavouring in every way possible to carry their point with the Government. They welcome its construction; they have not the least objection to the acceptance of foreign loans by the Government, but what they really object to and will not cease objecting to so long as the question remains unsettled is the building of the railway with foreign capital. It must be understood that in Hunan all classes, from the humblest farmer to the highest official, have invested money in the railway, and the investment was made directly in response to the appeal of the members of the Local Legislative Assembly of Hunan.

These members, who are nominated by the people, and are therefore their representatives, after having solemnly undertaken to perform the duty of persuading the people to subscribe capital for the construction of the railway, at once set to work with a view to procuring the desired results. They traveled everywhere, making stirring speeches in which they pointed out the duty of the people towards the railway, and its manifold advantages to them. There are matters in which the Hunanese might not agree, but in this, the building of the railway with Chinese capital, they unanimously agree. The speeches had an electric effect on the minds of those who listened to them with breathless interest, and some of them were so touched that they actually shed tears, and all willingly pledged themselves to purchase shares according to the best of their ability. Resolutions were passed to the effect that, come what may, the railway will be built with Chinese capital. Through the action of the members the Hunanese are now in a position to build the railway with Chinese capital, for sufficient funds have been raised to meet the necessary expenditure. It is carefully calculated that annually over $3,000,000 can be raised from actual cash shares, between $1,500,000 and $1,600,000 from shares to be paid with house rent collected at such large cities as Changhsa and Hsiangtan, over $100,000 from shares to be paid out of official salaries, and, as far as existing conditions are concerned, not less than $1,000,000 from shares allotted to merchants. All the subscribed shares have been definitely claimed, so that the money is always on hand ready to be used for the purpose for which it is intended. In connection with the redemption by China of that portion of the railway which was constructed by the American Syndicate, measures were adopted for the imposition of a salt tax and a rice tax, such taxes being capable of yielding large amounts, and from various sources, from which, including the Sanshui-Fatshan branch line, about $1,000,000 are obtainable every year.

With all these funds at their disposal, the Hunanese have not been slow in appropriating them for the construction of the railway. As already decided, that section of the line, from Tsuchow to Hsiangtan, will be opened for public traffic on the 15th day of the 8th month, and that section from Changsha to Tsuchow in about the middle of the coming 11th month. Work connected with the construction of the upper section from Tsuchow to Pinchow and the lower section from Changsha to Yaochow will be started simultaneously.

If, in direct opposition to the express wish of the Hunanese and without any regard for the rights they claim, the Canton-Hankow railway should be built with foreign loans, and not with Chinese capital, the consequences that would inevitably follow would in the opinion of many be very serious indeed. As previously mentioned, they regard this railway as something affecting their life and death—something that they must maintain at any cost. From what can be gathered up to the present, it appears that if their cry, "Chinese capital only" should be unheeded, if their strong protest against the introduction of foreign loans for the construction of the railway should ultimately prove of no avail, they would more than likely take further steps to defend their rights and interests. Disturbances may break out all over Hunan, possibly resulting in the loss of innocent lives and the destruction of valuable property. Foreign lives and foreign property there would be endangered, and it would give rise to serious diplomatic negotiations, not to say the calling out of the foreign men of war for the protection of same. But this apparent calamity, which nobody would like to see happen, can easily be avoided if the Chinese should be allowed to build the railway themselves without the use of foreign loans, and in view of what may possibly happen in the alternative, it seems necessary that something should be done to settle the question with the Hunanese on a fair and satisfactory basis. As already stated, the bone of contention with the

Hunanese is not the acceptance of foreign loans by the Government, but the use of foreign loans for the construction of the railway. Supposing, however, the Government should finally succeed by means of mere pressure exerted on the people in building the railway with foreign loans, even then, it may be assumed, the Hunanese would not stop taking further steps to defend their rights and interests. They would boycott the railway, and would cause such troubles and such difficulties as would paralyse all works of the railway.

The above is not written by an alarmist out of his imagination. It is based on facts gathered from reliable sources, showing the firm conviction and attitude of the Hunan people towards the Canton-Hankow railway, and therefore deserves the serious consideration of foreign capitalists who are interested in the development of railways in China.

Commenting on the above, the *Peking News* expresses the prevailing sentiment among foreigners who are consistent in their friendship towards the Chinese and are desirous of giving them square deal when it says:

"We think foreign money should be welcome for the development of China's immense resources and railways especially. We object to foreign money only when it carries political designs which tend to the impairment of China's sovereignty; when it means that China has to pay double for what she needs and to receive half for what she sells. As regards the scheme set forth for the purpose of raising funds from officials' salaries and the increase of salt taxation, etc., we are afraid the writer is a little too sanguine. Experience tells."

The Canton-Hankow Railway may be said to be divided into three parts. The section in Kwangtung province is controlled by the Kwangtung Yueh-Han Railway Co., Ltd., the Honan section by the Honan Yueh-Han Railway Co. and the Hupeh section by the Hupeh Yueh-Han Company. There is the Samshui branch in which each of the provinces have an squal interest and this line is controlled by what is known as the Canton-Hankow Railway of the Three Provinces.

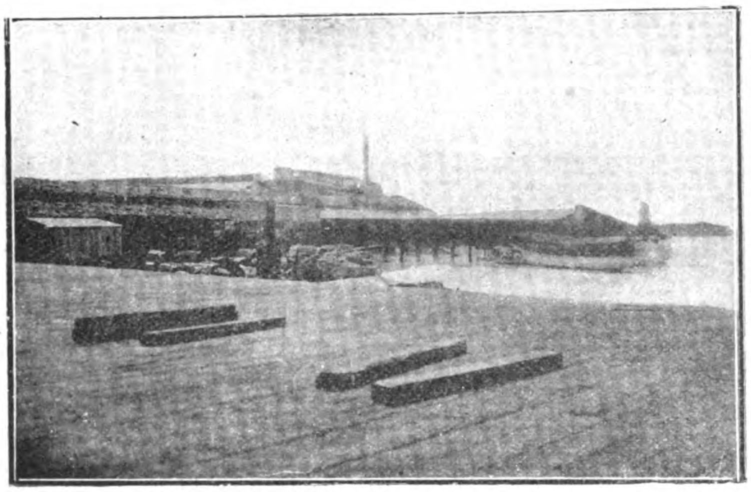
To understand this, it is necessary to revert to 1905 when the American China Development Company turned over their rights to the Chinese. Among the assets was the completed Canton-Samshui branch 30 miles in length, then operating. This line was taken over by the three Provinces under which management it has been successfully operated with large revenue return annually. The control of the main line was then divided among the three provinces, the gentry of each province assuming the responsibility for the construction and operation of the line within its boundaries.

The total length of the main line as surveyed is about 750 miles of which 220 miles are in Kwangtung. When the American-China Development Company retired the work accomplished on the main line from Canton consisted of about twelve miles of embankment and about eight miles of steel. Work had been suspended in the fall of 1904. The latest reports from the Kwangtung section are to the effect that there are 60 miles operating on the main line north of Canton to a point called Kau Wan Shek and the track has been laid for a further distance of ten miles.

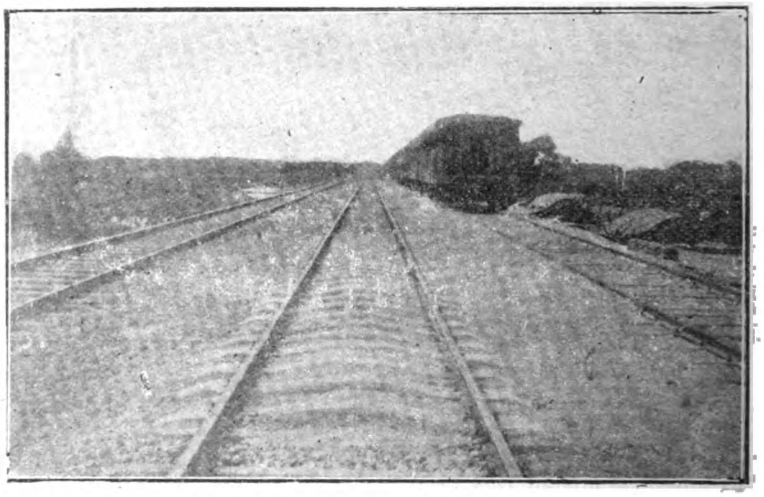
Grading is reported finished for a distance of 110 miles to Yingtak where the completion of the large bridge at that point is necessary before much is accomplished beyond.

This bridge has two 200-foot spans and four 60-foot spans. About mile 80 there is another bridge being constructed, but the completion of the line to Yingtak offers few serious difficulties. The work is up on the different intervening sections between the unfinished cuts and bridges and awaits the advance of the steel and construction trains to put on the finishing touches. However, unforseen delays, interruptions and disputes prevail so that the best results may not be anticipated.

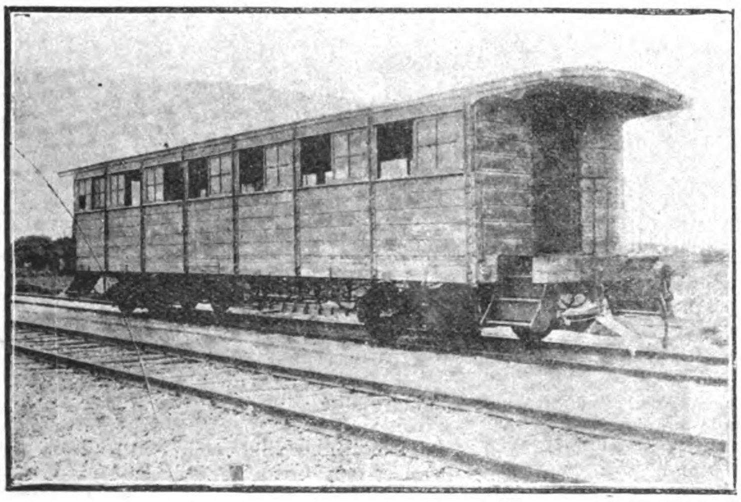
Sir Liang Chentung while president of the company succeeded in accomplishing more real results than any of his predecessors. During the last year there have been a number of investigations by direction of Peking and these have been marked by suspension of work rumours of wholesale discharges and other agitation that seemed to affect the railway management throughout and postpone active work.



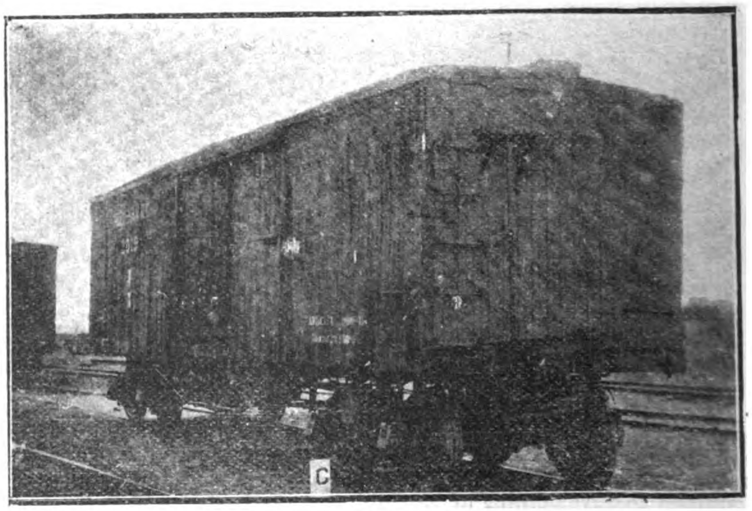
CANTON-HANKOW TERMINUS AT SHEK-WAI-TONG



CONCRETE TIES USED WEST OF SHEK WAI-TONG



CANTON-HANKOW OLD SECOND CLASS CAR NOW USED FOR THIRD CLASS TRAFFIC



TYPICAL BOX CAR

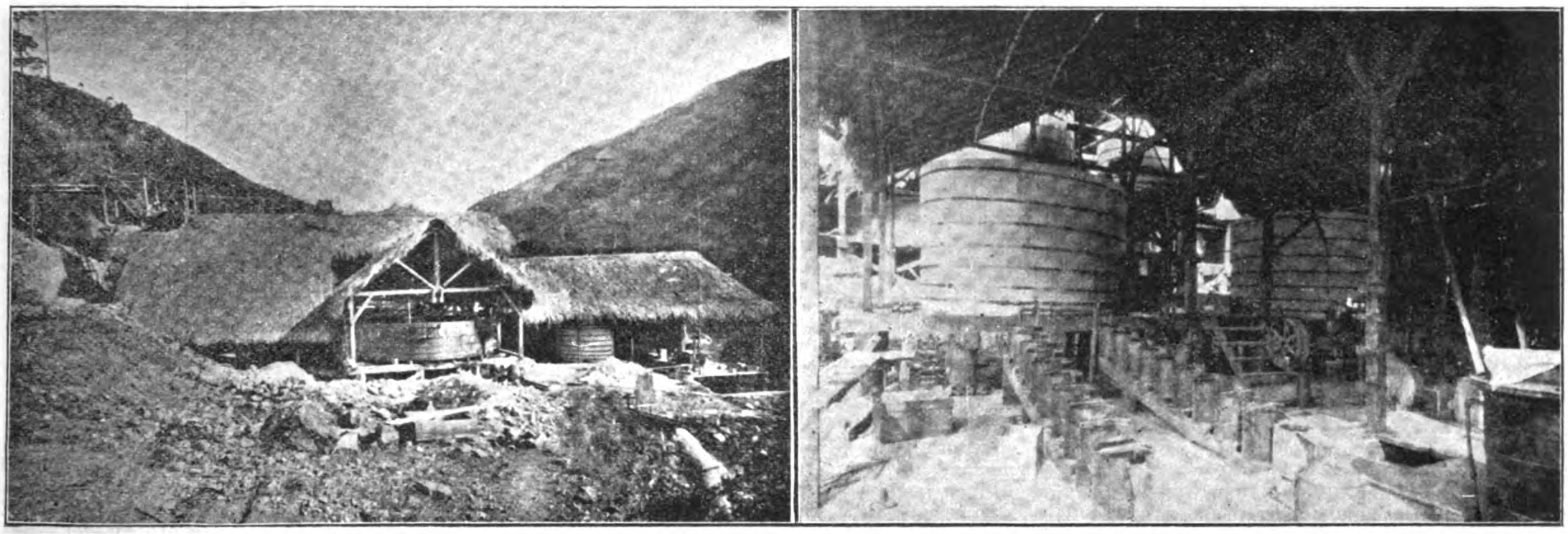
# CYANIDING IN THE PHILIPPINES*

By C. M. Eye, E. M.

*(Formerly Superintendent of the Benguet Consolidated Mining Company, now of the Colorado Mining Company.)*

Thus far, the application of the cyanide process to the ores of the Philippines has been at two properties at Antamok, in the Benguet district, but from what is known regarding the character of the ores in other parts of the Islands and of the district mentioned, the use of this method of treatment probably will become much more general. It is with a view of assisting in this wide application that the plants on the properties mentioned are herein described and the general results and conclusions deduced from their operations given in considerable detail.

The first cyanide plant erected in the Islands at the mines of the Benguet Consolidated Mining Company at Antamok, Benguet district, was put into operation toward the close of 1906 to treat the tailings from the stamp mill, after amalgamation. The original installation consisted of four leaching tanks each 22 feet in diameter by 5 feet in depth, each with a central bottom discharge door 16 inches square; two solution storage tanks each 12 feet in diameter by 8 feet in depth; two gold solution tanks of the same dimensions as the solution storage tanks; two sump tanks each 14 feet in diameter by 6 feet in depth; one 1½-inch centrifugal pump; one set of forty individual bucket extractors or zinc boxes, arranged in four rows of ten in each row; one Hampton zinc lathe; one emery wheel; one small vacuum pump and one small vacuum filtering tank, the whole constituting a regulation leaching plant of the simplest type. The leachers were of 3-inch and the other tanks of 2-inch Oregon pine lumber with flat steel hoops throughout. The filters in the leachers consisted of a grating of pine strips 2 inches high, on which was placed, in two of the leachers, a layer of coco matting, over which was stretched a sewed burlap filter cloth. In the two other leachers, a layer of burlap was first nailed down and then a layer of raw coco fiber was laid, over which was stretched the regulation burlap filter cloth. For a time the raw coco fiber served as well as the coco matting, but it soon packed too hard, and later was removed entirely and the filter worked with but two layers of burlap, the top one consisting of the heaviest "Calcutta" bagging obtainable in this market.



CYANIDE PLANT OF THE BENGUET CONSOLIDATED MINING CO. AT ANTAMOK, BENGUET

Recently the leaching was improved by raising the filters to about 4 inches from the bottom, and fitting them throughout with coco matting which seems to be the very best filtering medium obtainable.

The individual zinc boxes proved insufficient and troublesome, and therefore they were soon replaced by regular redwood extractors of two double lines of compartments of nine compartments each, the dimensions of each compartment being 24 inches by 30 inches by 30 inches deep, with bottom plugs for removing the product at clean-up. An additional leaching tank of same dimensions as those in use was added in 1908. Two more solution storage tanks each 7 feet in diameter by 7 feet deep were added last year, and since then one of these has been converted into a mixing tank of lime, the solution being pumped through it on the way to the leachers.

*Bulletin, Bureau, of Science, 1910.

---

Recently Mr. Joseph Lind, superintendent of the Canton-Samshui branch, retired after eight years service on the road. He served on this branch under the American China Development Co. and was retained in the position he occupied up to July of this year. Then followed the retirement of Mr. J. S. Goodell, First Assistant Engineer in charge of maintenance and way at Canton, who sailed for the United States in September at the conclusion of his contract.

In neither of the above instances were there any reasons assigned for the changes beyond the unconfirmed report that no contracts with foreign engineers would be renewed.

The chief engineer of the line is K. Y. Kwong, a graduate of Boston Tech. Mr. J. S. Goodell was his first assistant. Among the foreign engineers now on the line under contract are Charles Gasper, superintendent of motor power and cars; Rich Wood Randolf, Division Engineer in charge of the 3rd Division; James Thorpe in charge of section 9; Harry A. Rader, section 10; John D. Keeler, section 11; Japanese sections 12 and 13; D. G. Hislop, sections 14 and 15. Each of these sections represents approximately 10 miles and on all of them more or less work has been done.

It might be noted that under the proposed loan agreement, English and French engineers are to be employed on the Canton-Hankow and it is not improbable that this may have some bearing on the report of non-renewal of contracts with the present engineers. While the general opinion is growing that this loan will never be consummated owing to the serious opposition of the Hunanese, it is not improbable that the management, in anticipation of its conclusion, may have decided to prepare to meet the above stipulations. However, the seer who may provide an accurate forecast of the future of this enterprise, has not yet been located.

Little progress has been made in Hunan and Hupeh beyond surveys and organization so far as has been learned. Everything connected with the enterprise in these two provinces is overshadowed by the anti-foreign agitation.

Some light is thrown on operation by the report of Vice Consul Myers of Canton referring to results for 1909 as follows:

"Of the Yueh-Han Railway only 4 miles of track were opened to traffic in 1909, from Yum Tam to Par Kong How. There are many reasons for the little progress made during this time, the principal ones being the failure of grading contractors to carry out their contracts, lack of experienced workmen, lack of good foremen, and alleged lack of concerted action among the directors. The line is now open to traffic for 48 miles, while the grading for another 50 miles is practically completed.

"Last year 1,456,466 passengers were carried. The freight consists chiefly of pigs, poultry, etc., but this amounts to little. The amount collected in fares from passengers and freight was $120,460. The gross expenses for the year, not including fuel consumption, maintenance of equipment and maintenance of way, were $20,757. The rolling stock and machinery are valued at $51,000

"On the Sam-shui branch of this line 3,293,731 passengers were carried, of which 481 were foreigners. The gross earnings for 1909 were $263,043, an increase of $25,585 over the previous year. The total operating expenses amounted to $84,429, an increase of $2,782. In 1909, $56,995 were spent for the improvement of the line and additional property. Compared with the preceding year this item shows a marked decrease, the reason for which was the damage caused by floods during 1908."

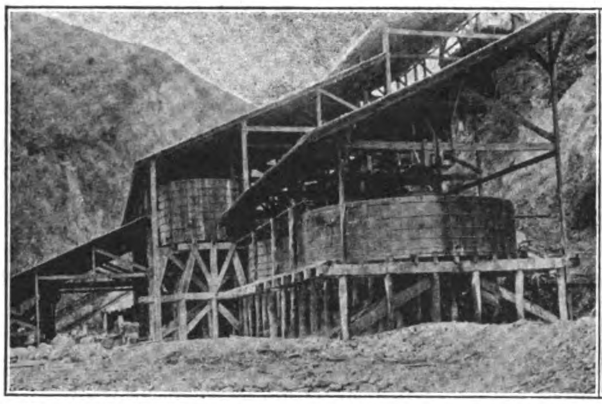
The extreme acidity of the ore has always required the addition of considerable alkali to protect the cyanide from decomposition. At the start, the common method was tried of adding quicklime with the ore as fed to the batteries, but this was soon abandoned, as it took a prohibitive amount of lime to accomplish the neutralization of all the acid, and also because a heavy deposit of calcium sulphate (artificial gypsum) formed on the screens, mortar lips, etc., and even incrusted the amalgam coating on the table. Then the method of spreading a layer of lime on the top of the leacher charge was tried, but an insufficient amount of lime was dissolved and carried downward to keep the charge neutral, even when it was given a preliminary water wash with the lime on top. Lime at that time was costing 20 cents gold per pound delivered, and, as caustic soda could be delivered for 5.5 cents gold per pound, the use of lime was for the time abandoned, and soda employed instead.

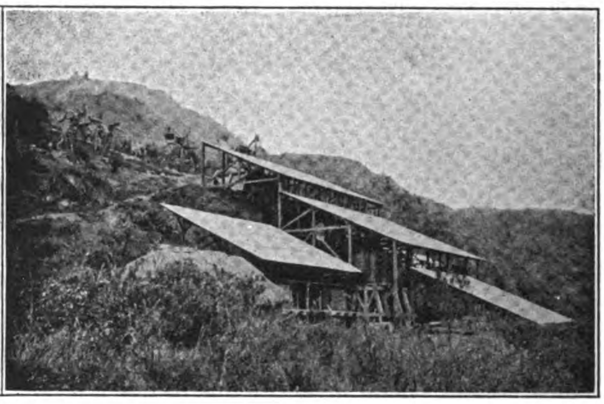
The practice then developed of draining off the water from a charge when filled, leveling off the top, putting about 50 pounds of caustic soda in a bucket in the center of the top and running water through it until the charge was covered, then opening the drain below and allowing this soda wash to drain off to waste. Then the drain was closed, a solution of full working strength (35 per cent KCN and 2 per cent soda) put on from the bottom until the charge was well covered, the charge then allowed to stand for a few hours, then percolation started downward, and continued under full head for from six to seven days, then the solution drawn down fairly close to bottom and weak solution put on, this following in successive heads for several days, then several successive heads of wash water were put on, and finally the charge sluiced out to waste.

The whole of the treatment took about eighteen days, which is an unusually long time, but it seemed to be necessary, as only a long contact with a strong solution would give a fair commercial extraction. This prolonged treatment was largely responsible for the rather high consumption of cyanide, which averaged a little over 2 pounds per ton treated. The use of soda was not entirely satisfactory, for the reason that unless very great care was taken to add it so that the degree of alkalinity of the solution coming off was nearly constant, there would be a formation of hydrates of iron and alumina, etc., which would clog the filter, get into the zinc boxes and make trouble generally. These were only soluble in a considerable excess of caustic soda in the solution. On the other hand, if the strength of soda was very much higher than the figure given, it led to an excessive consumption of zinc shavings. With the lowering of the price of lime to 1.25 cents gold per pound and the introduction of a mixing tank as noted elsewhere, the use of lime was resumed and of caustic soda abandoned, except to help out the lime in case a solution was acid or neutral. No more trouble was experienced with hydrates after lime was substituted for soda. No trouble of moment was ever encountered in securing good precipitations in the zinc boxes when they were properly dressed and filled, and the hydrates kept out, even though there was at all times an appreciable precipitation of copper on the zinc.

Soon after the beginning of operations it developed that the slimes, which were separated from the sands by an upward current classifier and run to waste, were of sufficient value to pay to treat, so a slimes plant, consisting of two tanks, each 14 feet in diameter by 16 feet in depth, was added. Each of these was provided with an overflow launder around the top, and with a stirring mechanism within, driven by bevel gear from a shaft above, common to both agitators. The stirring gears were designed by me and made in Manila, and consisted of a 3½-inch vertical shaft, to the upper end of which was keyed half a standard coupling, reversed, and to the lower end, the other half of a coupling in its normal position. The shaft was carried above by a train of balls in a groove in a cast plate, the under side of the coupling bearing on the balls. If it were desired to raise the whole mechanism, the supporting plate was raised by a chain block attached above to a basket frame fastened to the bearing plate. The rig could thus be raised or lowered while the agitator was running. The shaft was kept in line by two vertical guide bearings and when being raised or lowered slipped through the bevel gear by virtue of the latter being connected to it only by a feather in a long keyway. The agitator rig at the bottom consisted of four radial arms of 3-inch pipe bolted and clamped to a plate of three-fourths inch steel, 2 feet square, which was bolted up under the half coupling. On each radial arm 10 socket castings were clamped at equal spaces of 9 inches, and in each socket was fitted a stick 6 feet long and 1¾ inches square, set vertically. The speed of the agitator was 16 revolutions per minute and the agitator was all that could be desired. These tanks had square discharge doors at the side at the bottom, and were provided with an entering launder that terminated in a square box reaching several feet below the surface near the center.

In practice, the stream of slimes from the classifier was run into the tank, being charged through this box, the solid matter settling to the bottom and the clear water overflowing the side to waste. As soon as the charge of settled slimes had reached a depth of about 7½ feet, the stream was switched to the other tank, and the supernatent water removed from the settled charge. Then about 500 pounds of slaked lime was added, agitation started, cyanide solution pumped in, the necessary amount of cyanide added to bring it up to working strength (testing 1 per cent KCN) and agitation continued for nine hours. This accomplished very thoroughly the dissolving of the gold values. After the agitator had been stopped and raised, the slimes were allowed to settle to their level in the tank, the clear gold bearing solution being removed by decantation through a hinged pipe in theside, and conducted to the weak gold tank in advance of the extractors. (The weak-solution circuit for the leaching was used for the treatment solution for the agitation.) One complete settling, decantation and settling consumed eighteen hours. Successive charges of weak solution were pumped on, agitated for fifteen minutes each time and removed by decantation, as many such charges being used as the time permitted before the tank was needed for the next charge. Usually 6 or 7 such decantations were made. This method of removal of the values was slow and incomplete, however, owing to the fact that at the maximum degree of settling the ratio of pulp to solution was still 40 to 60, or 1 part of solid matter to 1½ of liquid. In order to gain additional capacity as well as more complete washing, an automatic filter plant consisting of Ridgway one-unit filter, a double cylinder Imperial compressor, a horizontal wet displacement pump, and a steel-lined slimes pump was installed during the past summer. This plant was driven by a separate water wheel, and made a very complete installation in itself but, unfortunately, it was lost in the flood that destroyed the greater part of the cyanide equipment in November of the present year, and before very many data as to its efficiency were obtained. However, it would undoubtedly have effected a very material saving, as well as have increased the capacity of the slimes plant several times over.





CYANIDE PLANT AND MILL OF THE BUA GOLD MINING CO., BENGUET

At the beginning of operations, the crushing was rather coarse, a diagonal slot screen with width of opening corresponding to 10 mesh per linear inch being used. However, leaching results showed that this was too coarse for good work, and the mesh was gradually increased, first by using 16, then 20, then 24, and finally 30 mesh sizes, with increasingly good results Investigation of the sands before and after leaching also showed that a small amount of high-grade iron sulphide carried a fair percentage of the values, and that this sulphide still contained good values after leaching, so a Wilfley table was installed over which the sands passed from the classifier, and from one-thirtieth to one-fiftieth of the tonnage was removed as a high-grade concentrate which was stored for future treatment or shipping. A series of experiments on this material showed that by fine grinding in cyanide solution in a tube mill, well over 90 per cent of the value was dissolved. In fact, all of the work done at this plant showed that when the ore is reduced to slime, the solution of the gold content can be accomplished easily, which points to this method of treatment as best for the whole tailings from the stamp mill, provided that every part of the latter will stand the cost of the reduction to slimes, which would not be large, in view of the splendid and cheap water power available. It is to be hoped that when the plant is renewed, it will be along these lines.

The plant of the Bua Mining Company, similar in many respects to the original leaching plant of the Benguet Consolidated Company, was installed and put into operation in 1907 to treat

*(Continued on page 170.)*

# THE FAR EASTERN REVIEW

GEO. BRONSON REA, M. E.

PUBLISHER

WILLIAM CROZIER, Editor.

COMMERCE :-: ENGINEERING :-: FINANCE

A Monthly Review of Far Eastern Trade, Finance and Engineering, Dedicated to the Industrial Development and Advancement of Trade in the Philippines and Far Eastern Countries

PUBLICATION OFFICE:

MANILA, PHILIPPINE ISLANDS

HEAD OFFICE

WHITEAWAY LAIDLAW BUILDING

Shanghai

UNITED STATES REPRESENTATIVES:

J. ROLAND KAY CO.

Teutonic Building, Chicago, Ill.

GREAT BRITAIN:

PROBSTHAIN & CO.

14 Bury Street British Museum, London, W. C.

SUBSCRIPTION AGENTS:

| | |
|---|---|
| HONGKONG | KELLY & WALSH, LTD. |
| SINGAPORE | " " " " |
| YOKOHAMA | " " " " |
| SHANGHAI | " " " " |
| TIENTSIN | TIENTSIN PRESS, LTD. |
| WASHINGTON, D. C. | BRENTANO'S. |

SUBSCRIPTION RATES: Philippines, United States, Canada, and Mexico, $2.50 U. S. C. per year. To all other countries in the Postal Union, $3.00 per year. Single copies 25 cents, U. S. C.

ADVERTISING RATES will be mailed on application.

Communications pertaining to the Editorial Department should be addressed to THE EDITOR.

ENTERED AT POST OFFICE, MANILA, P. I., AS SECOND CLASS MATTER.

MANILA, SHANGHAI, AND YOKOHAMA, OCTOBER, 1910


CONTENTS


| | Page |
|---|---|
| Formal Opening of the British Section Kowloon-Canton Railway | 151 |
| Opening of the Iloilo-Capiz Line of the Philippine Railway Co. | 158 |
| Visit of the American Secretary of War Canton-Hankow Railway | 165 |
| Cyaniding in the Philippines | 165 |
| Hongkong and Her Railway | 167 |
| Railway Development in the Visayas | 168 |
| China's Senate | 168 |
| Recall of Yuan Shih-kai | 169 |
| Death of William C. Cowie | 170 |
| Reviews | 170 |
| Philippine Railway for 1910 | 171 |
| Contracting News | 175 |
| Far Eastern Railway News | 176 |
| Philippine Mining News | 179 |
| Far Eastern Engineering, Construction, Commercial & Financial News | 180 |
| London Metal Market | 183 |
| Far Eastern Share Quotations | 184 |


## HONGKONG AND HER RAILWAY

Hongkong inaugurated a new era in her history on October 1st, when Sir Henry May declared the British section of the line to Canton open to traffic. This era might be known as one of fulfilment of the hopes of the promoters of the enterprise and the completion of this first link connecting the British colony to the Chinese empire has been marked by a general expression throughout the colony of loyalty to the enterprise and of a desire to assist in making the venture a success.

The comment in the local press involves general acceptance of the statement made by Mr. E. S. Lindsay, M.I.C.E., Chief Resident Engineer, quoted elsewhere, and where formerly there was a disposition to criticize, we find general appreciation, due largely to a more comprehensive knowledge of the serious character of the undertaking and the almost impossible engineering difficulties overcome.

The *China Mail* does not expect immediate results but leaves the outcome of this railway connection hopefully to the future. That paper says:

"With the opening on Oct. 1st of the British section of the Kowloon-Canton Railway, Hongkong enters upon a new chapter of its existence. What will be written in that chapter Father Time will alone disclose. The high hopes which were entertained when this particular railway project first took shape and form in men's minds are not destined, we fear, to be realized, at least for a long time to come. For it must be evident to the merest tyro that the little bit of railway track running through the hinterland of British Kowloon can be but a small factor in securing that development of trade and commerce which the Colony so ardently longs to see. But it is a means to an end, and as such justifies its existence. Someday when the great trunk line of central China has been constructed and put into regular working order, Kowloon will be the southern end of a line of steel rails which, running through some of the richest districts of China, will, via Hankow and Peking, connect with the Manchurian railway system and thereby with the Siberian line running to Moscow. And as the Far Eastern terminus of such a system Kowloon should, in the years to come, swell into a place of much importance. But many a long day will have to drag its weary length to eventide ere we see this magnificent dream realized For the moment we can but hope that the through connection with Canton will be realized by next July and so enable a commencement to be made in the exploitation of the densely populated delta which has the City of Rams as its provincial centre.

"The immediate prospects ahead of our little bit of line are not particularly bright. Its cost, so very much above the first entertained idea, will make the earning of interest on the outlay alone a very heavy task, and for many years we fear that the line will be a white elephant, the expense of whose up-keep will fall heavily on the Colonial Treasury. The political importance of the line outweighs every other consideration. We had to build it in the future interests of Hongkong—and we hope posterity will be duly thankful to us for the sacrifices we have made."

The *Hongkong Daily Press* believes, with Sir Henry May, that the immediate effect of British section will be the more rapid development of the New Territory which has suffered through lack of communication, but looks forward to the greater benefits of international connections in the future. We quote:

"Saturday October 1st, 1910, will be a memorable day in the history of the colony of Hongkong. After many years of waiting the community had the satisfaction of witnessing the opening of a railway line through the British territory of Kowloon, and can now look forward with eager anticipation to the completion of the Chinese section—more than four times the length of the British section—which will give us direct connection with the city of Canton, the great metropolis of South China. If all goes well, the entire length of 112 miles will be open to through traffic long before this time next year. We shall then be watching more closely than now the progress being made with the construction of the great arterial line which is to connect Canton with Hankow, and contemplating the prospect of some day being able to travel from Hongkong, via Hankow and Peking thence across Siberia to Calais. That, it is true, is looking a long way ahead. Meanwhile it remains for the community at whose cost the short British section of the line has been made to do all in its power to promote in every way its usefulness and its prosperity. The undertaking has been a costly one for a small Colony, but we are glad to have it on the authority of an expert of the wide experience of the present General Manager of the line that, having regard to the nature of the work, its cost compares favourably with similar undertakings elsewhere. What, however, is necessary at the present time is to emphasise the original intention of the railway, for as Mr. Lindsey very appositely remarked in the course of his speech "the original intention is liable to be lost sight of when, after a railway is finished, traffic sufficient to pay for its working and the interest on its cost is not immediately forthcoming." Probably it will be some years before the revenue covers even running expenses, to say nothing of interest. Consequently in the history of the undertaking which appears on another page we have deemed it important to give special prominence to the main considerations which weighed with those who so strongly advocated the construction of this line a few years ago. No doubt its most immediate effect will be to encourage development in the New Territory, a subject on which Sir Henry May enlarged in his address on Saturday. But there are even more substantial reasons for the railway. So long as Hongkong remained without railway connection with Canton, while great railway undertakings were projected to connect Canton with the interior of China, the Colony was threatened with the creation of a rival port in the vicinity of the Bogue which would serve as a seaport terminus of the great trunk railway. As the China Association pointed out to the Government, "the bare possibility of such a contingency is sufficient to arouse the liveliest anxiety in the minds of all persons interested in the welfare and prosperity of the Colony, not alone on account of the individual losses which would ensue from the enormous depreciation of property and investments, but also because of the severe blow it would inflict on British influence and prestige throughout the whole of China." These are weighty considerations, and now that the British section of the line has been constructed and we see an early prospect of through traffic being opened with Canton, we can renew our thanks and congratulations.

"Trade has in other lands invariably sprung up around the railways and we do not see why the same phenomenon should not occur in southern China. True the Canton river is a formidable competitor and always will be, but with the laying down of feeder branch lines to important centres of population and industry, the railway should tap new sources of potential wealth which the riverine trade cannot possibly touch or affect. Besides, if the experience of Japan is duplicated in her consanguinous neighbour, the Chinese will not be long in acquiring the railway habit. When a man can cover a distance in a few hours with ease and comfort which used to take him days of toil and worry to accomplish, it is not long before he finds it necessary to repeat the journey. When railways were first built in Japan people said that it would be hopeless to expect much passenger traffic as the habits of the Japanese, apart from certain pilgrimages made at different ages and times, made him a home-keeping human. How completely these old prophecies have been exploded any one who has travelled in Japan can tell you. We venture to think it will be the same in China."

Manila does not propose, apparently, to remain idly by and permit Hongkong to capture all South China trade, perhaps for the reason that Americans have not forgotten the loss of prestige and trade resulting from the American-China Development Co. fizzle and would redeem their position. The *Daily Bulletin* is not so sanguine of results but believes Manila's future opportunities should be looked into. That paper says:

"It might be said that had the American-China Development Company carried out their contract with China on the Canton-Hankow

the Kowloon-Canton would very probably not have been built. The fizzle of the A. C. D. made it possible for Hongkong to secure terminal connections and where a modern harbor for Canton was proposed by the Americans to handle the Canton-Hankow freight, theBritish port of Hongkong will now take care of it and have the advantage of being a distributing center with rail connections throughout the richest sections of the empire.

"Her only probable competitor for this South China trade would be Manila, if the latter wakes up. It will require years of preparation on the part of the Philippine metropolis to secure any portion of this trade but there is plenty of time. It would mean a South China harbor and a well equipped steamship line engaged in reciprocal trade with the Chinese.

"Freight rates from Manila must meet the rates over the 110 miles of railway between Hongkong and Canton and we must be in a position to secure return cargoes. However, this matter is worth looking into. Manila must not sit idly by and be satisfied with the crumbs from South China. We would suggest that the Merchants' Association and the Cantonese merchants of Manila get together and see what can be done. Competition between Hongkong and Manila for this trade would prove interesting and instructive and at the same time test out the capacity of the two nations of shopkeepers at their respective jumping off places."

## DEVELOPMENT WORK OF THE PHILIPPINE RAILWAY COMPANY IN THE VISAYAN ISLANDS

The driving of the last spike of the Panay Line of the Philippine Railway Company brings us to the consideration of what the completion of these lines of railroad means to the country, in general, through which they pass.

The connecting up of the rails on the Island of Panay marks the beginning of the end of the largest piece of construction work financed by American Capital in the Far East. Despite the greatest difficulties on account of labor shortage, weather conditions in the Islands, and the strained financial conditions in the United States, this work has been pushed steadily for the past three years. It will take possibly another year to replace the temporary wooden structures with concrete and steel bridges, complete the station buildings, widen the embankments to full width, put the required amount of ballast under the track, and in general put the last thirty miles in a state of final completion.

The lines on Cebu and Panay run through some of the richest country in the Philippines, but owing to cattle diseases, the insurrection, the lack of modern methods of cultivation, and the almost total absence of any means of transportation, mile after mile of the richest land has lain idle for years.

With characteristic American energy, the management of the lines have set themselves to the task of developing the resources of the country tributary to the railway.

Realizing that the methods in common use among the Western railroads of the United States will not suffice in this country, they are endeavoring to accomplish the same results by other means.

The territory through which the road runs on the Island of Cebu is the most thickly populated section of the Archipelago. In spite of this, there is much land that is not under cultivation and the land that has been planted, in many cases, is not producing more than fifty per cent of its possible output. Corn, hemp and maguey, sugar and tobacco are the principal products.

The Railway Company has imported from the United States several different varieties of seed corn which will be distributed, at actual cost, to the farmers. Railway representatives will closely supervise the planting and cultivation of the corn. When it is mature, the seeds which produce the most corn per hectare will be decided upon and arrangements made to furnish this seed to all planters.

There are many large tracts of land, which are capable of growing maguey, not now under cultivation and much of the maguey now raised is improperly planted and the leaves cut before they are fully matured. The mailing of circulars and talking with the people has little, if any, effect. In order to give them a practical demonstration and object lesson as to the proper method of cultivating maguey, the Railway Company borrowed from the Bureau of Agriculture a Prieto maguey stripping machine and set it up on two flat cars. This machine was taken to various stations and set out on a side track. All the farmers were invited to bring in their maguey and have it stripped free of charge. When a farmer brought in his maguey, there was a representative of the Railway on hand to show him what, if anything, was wrong with his maguey. They stripped some of the maguey that had been properly planted and was fully matured, showing him the difference in the fibre, and then instructed him fully as to how he should handle his fibre in the future. In order to make this object lesson doubly strong, the Railway Company arranged through the Cebu exporting firms to let them act as buyers for their account. When a farmer brought in his maguey and had it stripped, the representative of the Railway immediately offered him the market price for the grade of maguey which he had and told him that if he had produced maguey equal to samples shown him, he would have been paid considerably more for it. This was an argument that the farmer could not refute, and within a short time the quality of fibre produced was so improved that the price for first class maguey was increased from ₱6.50 to ₱9.00 per picul and to-day Cebu maguey ranks higher than any other maguey raised in the Islands.

Acting as distributing agents for the Bureau of Agriculture, the Railway Company have furnished the planters of Cebu 4,000,000 maguey plants, free of charge, which have been set out under the supervision of the Railway Company. A record is kept of the parties to whom the plants are furnished and where they are planted and they are inspected at frequent intervals by the representatives of the Railway Company and the Bureau of Agriculture. In about four years Cebu will rank first in the cultivation of maguey and derive an immense revenue from this source.

At the present time the produce of the country in both Cebu and Panay is bought up by Chino and Filipino traders and, after passing through the hands of two or three middlemen, finally reaches the exporter. The producers have not the slightest idea as to the prevailing prices at the market points and are at the mercy of the local buyers. To obviate this difficulty the Company gets out every two weeks sheets showing the prices paid for all commodities produced in the territory tributary to the line, at the various market points along the line. These price lists are posted at each station. In this way the farmer can ascertain at a glance the prices paid for his product at all points along the line and ship it wherever he can get the most for it. This is likewise a guide for buyers.

In order to encourage the people to sell direct to the exporters or consumers, arrangements have been made with steamship lines running out of Iloilo and Cebu to Manila, whereby through bills of lading are issued at stations along the railway direct to Manila. Freight so billed is switched down onto the water front and loaded onto the steamer direct, thus eliminating any charge for transfer. If there is any transfer charge such as lightering across the river at Iloilo, it is absorbed by the railway and steamship company, so that the rate to the shipper is simply the railway plus the steamship rate from his station to Manila, and vice versa.

In order to encourage the large firms to send buyers out to deal directly with the people, the Company allow them to build bodegas, according to design approved by the Company, on their right of way convenient to the loading tracks, at a nominal rental for the land, and in some cases have even gone so far as to permit bona fide buyers to use their freight houses to store freight until time to send it to the steamer for Manila.

Each station is provided with a sample rack on which are exhibited choice samples of the products of the surrounding country, together with instructions in Visayan for proper planting and cultivation in order to raise similar grades.

The natives have already begun to appreciate the work of the Railway Company in this direction and are holding their products for better prices and the local buyers are forced to pay the farmer what product is worth.

There are many cases of farmers three or four miles from the railway being absolutely cut off on account of lack of passable roads. The Company is making strenuous efforts to get the municipal, provincial and insular governments to put the existing roads in condition or construct new roads from such districts to the Railway stations.

They have representatives scouring the country talking with hacenderos and planters, finding out what they need, the conditions under which they are working, rendering them assistance where possible, and encouraging them in every way to put all the land under their control under cultivation. Land that is for sale is noted and prospective purchasers encouraged to apply to the Industrial Department of the Railway for assistance in buying land. Every effort is being made to get outside capital interested in the Visayas.

New industries are being encouraged in every possible way, the railway seeking out new industries which are suitable for the country, finding a market for their output, and advising them as to the purchase of raw material.

A canvas is being made on Panay to see how many farmers in each district would contract for the use of cable plows on their land. If a sufficient number will go into it, the Company will endeavor to get such plows put in each district. The agents of the Company act as selling agents for agricultural implements and up to date plows are put on exhibition at each station, together with any other agricultural implements that firms may desire to exhibit while working the adjoining territory.

Through the efforts of the Railway Company, one of the missionary societies in the Island of Panay has taken steps to secure 200 hectares of land on mile 42 of the Railway and will start immediately an industrial school. They have about 100 boys in their charge and will make a model farm and at the same time teach the younger generation modern methods of cultivation.

An effort is being made to get the Bureau of Education to start a similar school on some land which they own near Passi. Such a school would, if properly managed, be practically self-supporting. As nine tenths of the wealth of the Islands must always come from the products of the soil, it would seem that a large percentage of the funds and attention of the Bureau of Education should be devoted to educating the people along agricultural lines. Such schools would be practically self supporting and would not only teach the boys in the school the proper methods, but would turn them for life toward agricultural pursuits, and at the same time serve as an object lesson to all the older farmers who could visit the schools. It speaks highly for the Baptist Missionary Society in the Visayas that they have been the first to take up this work.

It will be a long, hard undertaking, and probably cannot be accomplished without the active assistance of the Bureau of Agriculture, but the Railway Company hopes to make the Filipinos see the advantage of putting every available hectare of land under cultivation, using modern methods of farming and preparing their crops for the market. If they are successful, within ten years the Visayan Islands of Panay and Cebu will be two of the richest Islands in the Archipelago.

## CHINA'S SENATE

Constitutional government for China was advanced this month by the convening of the National Senate of two hundred members, half of whom were appointed by the Prince Regent and the balance selected from among two hundred candidates named by the provincial assemblies.

On October 3, the following decree was published:

"We have recently decreed that the 20th day of the 8th moon this year has been selected as the day of the first meeting of the Senate and the members should prepare all things necessary previous to the opening of the Senate

according to the regulation enforced. With reference to the memorial presented to us regarding the completion of the establishment of the Senate, we are exceedingly pleased to note this mode of procedure. In accordance with the instructions given by the late Grand Empress-Dowager the late Emperor had, in consideration of the difficult circumstances of the Empire, issued many Rescripts advising that preparation should be made for a constitutional government which event has never been adopted before and this mode should be continually followed for a hundred generations. In obedience to the late Emperor's instructions, we have repeatedly issued Decrees to the metropolitan high officials to prepare for the constitutional reform in regular order. As the Senate is the foundation of the upper and lower houses of parliament for which constitutional government will be relied on the performance of the administration of that department, and moreover the regulations for many years performances have been drawn up and the people, both Chinese and Foreigners, are now eagerly expecting to see this reform carried out. We therefore ordered the Grand Councillors and the Members of the Government Council to prepare all questions regarding various state affairs to be put forward before the first meeting of the Senate for decision in accordance with the rules and conditions enforced. Decree is hereby issued ordering the Members of the Senate to act in equity in the performance of their duties, thus showing to the people our sincere desire to fulfill the anticipations of our people.'"

Upon the opening of the conference the following special decree was issued:

"Ever since I was instructed by Imperial Order to be the Regent of the Empire the Country has been in a state of embarrassment and I have striven my utmost, both day and night in co-operation with the Princes and the High Ministers, to prepare everything for constitutional government in regular order. As the establishment of the Senate has been completed and the ceremony for the formal opening has taken place, I was glad in attending this special happy event and it was also held as the first conference. The principal important consequence of the administration of constitutional government in a civilized country is to depend on the people and the Government officials who should harmoniously unite together in the discharge of their duties. As the establishment of the Senate is the first great event of China and the members were selected by the people, it is hoped that all the Members will exert their best endeavors to show their merit in their performances."

The senators selected by the Prince Regent were chosen from among the members of the Imperial family, high officials, literati and gentry who are staunch supporters of the dynasty and represent the most conservative interests of the Empire. Prince Pu Lun presided at the initial sessions which were marked by decorum and dignity. The following questions were submitted for consideration and from indications the first Senate will find its time well employed:

1.—The Regulations for Insurance and Transportation of Cargoes.

2.—The Press Law.

3.—The reorganization of Education in the Empire.

4.—To promote commerce in Mongolia.

5.—The privilege of copyright.

The following are the six questions submitted to the Senate's consideration by the various provincial assemblies.

1.—Kwangse Province—The prohibition of the opening of opium shops.

2.—Kiangsi Province—The operation of the Stamp Tax.

3.—Kiangsu—To relieve the embarrassed situation of the sub-prefectures and districts.

4.—Kiangsu—The reorganization of levying of taxes and making deeds for property.

5.—Hunan—The suppression of oipum.

6.—Hupeh—The administration of navigation.

So far as has been learned, the organization was effected with little friction. The members have had the benefit of the experience of the provincial assemblies and this may be responsible for the harmony reported.

It might also be said that the body is representative of the different elements of Chinese life and while the lines are sharply drawn between the Imperial appointees and the elected provincial members, the large questions before them for consideration have absorbed their attention, and until these are disposed of and effective legislation recommended the capacity of the Senate to lead the way to constitutional government shall remain indefinite.

However, the Senators' conduct has already attracted favorable comment from the foreign press. The *Shanghai Times* leads in a very optimistic vein. After referring to the success of the Provincial Assemblies, the organization of which was the first step towards self-government, that paper says:

"It was not to be expected that such an acute question as the dispute between the Governor and Provincial Assembly of Kwangsi should come up for discussion at one of the first meetings of the new body, but the way in which it was handled is another indication of the genius for self-government which is being shown by the Chinese people. As in every such gathering in other countries, there were members who seemed inclined to break away from the established rules governing their organization, but these were restrained by the majority, which insisted on proceeding according to the constitution of the Senate. A suitable Memorial was sent to the Throne through the proper official body, conveying the opinion of the Senate as to the dispute, and there is every likelihood that an early settlement will be effected. The incident was a severe strain upon a newly organized body in which there had been no time for leaders to be developed, and the way in which it was disposed of is the best possible assurance to the country that the Senate will be a most useful addition to the governmental organization of China on modern lines. It also shows that the plan for a gradual extension of power to the representatives of the people during a term of nine years was carefully devised, and that there should be no deviation from it in the interests of a certain section of the more restless gentry. The experiences of the Provincial Assemblies of last year have been a valuable guide to the Senate at its first meeting, and as it will prove through each successive development of the programme—that what has gone before will be a valuable lesson to the part which follows."

The *North China Daily News* describes the duties of the Senate and refers to it, with its restricted powers, as a buffer between the throne and the representative provincial bodies That paper says:

"Among the duties of the Senate will be the discussion of all the financial matters of the Empire, new laws (except the Constitution and such as appertain to the Imperial household) and changes in old laws, together with other matters that may be specially submitted to it. In the event of a Grand Councillor or any Minister disagreeing with a resolution of the Senate, the latter will be required to reconsider its opinion, and if the matter is not susceptible of adjustment, it has to be referred to the Throne for a final decision. Direct petitions from the people will be submitted to this provisional Parliament, as well as all disputes between provincial assemblies or between an assembly and the government of its province; while the Parliament has the right of putting questions to a provincial assembly regarding provincial affairs. Finally the Senate, with the concurrence of more than two-thirds of its members, may refer to the Emperor any arbitrary act of a high official committed in violation of law or in disregard of the rights of the Chamber.

"In China, as she is at present constituted, it is not likely that the facts of government will be found outside the theory of government. There is no intention on the part of the Throne to allow, except under extreme pressure, the constitutional movement to transfer the Emperor's prerogatives to a Cabinet dependent on the majority in a popular Assembly, representative of the whole Empire. The movement, indeed, has been utilized to advance the much needed centralization of political power in Peking. So far the provincial governments have acquiesced under the glamour of constitutional progress in the surrender of their diplomatic authority and have tolerated, without encouraging, tentative interference with their financial powers. Whether they will consent without a struggle to a complete surrender of the latter may be thought problematical; but in the Senate the Throne would seem to have found a convenient arena for arriving at a solution of the difficulty in a way that will shield it from direct attack when the provinces are pressed into their last line of defence.

"In the Chinese system of constitutional government, it is to be feared, there is little indication at present that the Throne wishes to allow out of its own hands either the legislature, the judiciary or the executive. On the other hand the provincial assemblies have shown a tendency to take themselves seriously and to compel attention on the part of the local governments. If the Senate can invest itself with the same degree of independence, the world will be able to watch with no little interest the struggle of these deliberative bodies to impose true parliamentary ideals upon a people traditionally conservative and habituated to obedience. No political forces in Japan have been evolved within fifty years with sufficient strength to remodel the government; and in China the only additional agent that might be pressed into the service of out-and-out constitutionalists would be the possibility of a dynastic change, which is happily lacking in Japan. But if China is strange to the idea of constitutionalism, she is equally ignorant of the principle that subordinates the interests of the individual to the welfare of the nation, and on no other basis can she hope to build a successful constitutional government."

The *China Daily Press* interprets the convening of the Senate as evidence of the sincerity of purpose of the Prince Regent to carry out the program towards ultimate constitutional government and referring to the conservatism that marks the progress in this direction says:

"There are many ambitious, dissatisfied people in the Empire who are clamouring for the earlier establishment of Parliament, but until those who are likely to be entrusted with the new duties have passed through the period of probation, and the electorate have been educated to the proper appreciation of the franchise, there seems little reason to hasten the experiment which is fraught with so much importance. The Government has given proof that it will implement the promise made some four years ago. There is no occasion yet to question its honesty of purpose, and the speech of the Prince Regent on Monday in opening the National Assembly conveys the impression that the Throne views with sympathy the steps taken towards the development of constitutional government Certainly, it will be the wish of all interested in China's progress that the hopes entertained regarding the new body will be fulfilled, and that it will give satisfaction to the Government which has called it into existence."

In the progress towards her ideal of constitutional government, China may feel assured of constructive encouragement by all broad-minded foreigners No step taken has been a disappointment and confidence in the capacity of the Chinese to ultimately master the principles of self government is not wanting.

## THE RECALL OF YUAN SHIH-KAI

China's need of her strongest men is becoming more and more apparent as new and complicated problems of government and finance develop with the progress of the new national reform movement. The finances of the country are suffering from the lack of support accorded the Prince Regent by the provincial authorities and, instead of having the benefit of the advice of experienced councillors, the solution of the financial problem daily becomes a more serious task for the lack of it.

It is only natural that the absence of H. E. Yuan Shih-Kai should be noted at this juncture and a well defined sentiment develop favoring his recall.

We find the *London Times* strong in its endorsement of the retired Ex-Grand Councillor as "the one man who in late years has shown energy and strength of will" and urges his prompt recall.

The Empress Dowager is reported to have told the Prince Regent that if he carried out his intention to reinstate Yuan Shih-Kai she would

promptly assume the reins of government. Many conflicting reports emanate from Peking respecting this subject but it is generally conceded that the matter of his recall was among the subjects presented by the Prince Regent for the consideration of the Senate.

A telegram from Peking to the *North China Daily News* under date of September 6 stated that reports in the Chinese Press have been varied on the re-employment of the ex-Grand Councillor Yuan Shi-kai, and it is stated that, as the Peking Government intends to reinstate Yuan, a certain foreign Power is opposed to the idea and will make efforts to frustrate the proposal. While it is stated that the Government has decided to restore him to power in the Grand Council, another report has it that Yuan has refused to accept office in spite of requests from several high officials. It is also said that President Yin Chang strongly recommended Yuan Shih-kai for his pre-eminent capability, and when the Government sought the views of the Viceroys and Governors in the Empire on the question, the majority were in favor of Yuan's reinstatement."

Again on September 8th the announcement was made that the negotiations with Yuan Shih-kai regarding his reinstallation to office are going on, and it appears to be a mere question of time that he will again enter the Imperial service. Apart from an office within the Central Government of Peking there might be taken into consideration for Yuan Shih-kai the post of a Viceroy. The tendency of the Prince Regent to assemble around himself as much as possible of strong men is evident, and may be considered as a token of his strong will to introduce earnest actual reforms.

The Grand Councillors seem willing to placate the growing sentiment in the Ex-Grand Councillor's favor and have recommended that he be appointed viceroy of some province.

His old friend, H. E. Tong Shao-yi, recently appointed President of the Ministry of Communications, is reported to have visited Yuan Shih-kai at Changtefu on October 3, but the outcome of the visit has not been made public. It will be remembered H. E. Tang Shao-yi was the right hand man of Yuan Shih kai for many years and it was during his absence on a world tour, studying foreign financial systems, that the Imperial deaths occured followed by the retirement of Yuan Shih-kai. Upon his return he was not warmly received and up to his recent appointment lived in retirement. The friends of Yuan Shih-kai saw in his recent appointment a change of heart on the part of the Prince Regent and they looked forward hopefully to his early reinstatement.

So far as can be learned Yuan Shih-kai does not propose to respond unless his course throughout is fully justified by complete restoration to his former position and honors. He has been most reserved since his retirement and this alone has strengthened his position.

A Chinese report published in the *North China Daily News* is to the effect that Yuan Shih-kai asked General Wang Shih-chen to meet him at Changteh, to discuss important affairs and that the latter complied with the request. Later Yuan Shih kai telegraphed to the Grand Council expressing his unwillingness to rejoin the public service. He also made certain suggestions, which were presented to the Prince Regent for perusal.

The *North China Daily News* while strongly endorsing Yuan Shih kai believes it would be wiser for him to remain in retirement until after loans now proposed have been concluded unless he could count on "absolute freedom from court and official intrigue." That journal says:

"As far as the outside world has been able to judge, Yuan Shih-kai has added to his reputation by his correct attitude during his retirement. If he returns to power, it seems probable that it will be at the solicitation of the Peking Government and not as a result of intrigue on his part. He will, therefore, be well advised to accept nothing but the highest post and to display no anxiety to obtain even that. So convinced are we that China is in a bad way, that one strong personality with progressive ideas and breadth of vision at the head of things is required for her rehabilitation and that no one has shown himself more capable for the post during these twenty months than Yuan Shih-kai, that we should regret to see him jeopardize his country's future by a false or premature move. Indeed, the better course might conceivably be to refuse office for some time longer. Every thing points to the Central Government's being obliged to contract a loan to enable it to carry on the administration. The first step is apparently being taken by H. E. Liang Tun-yen who is credited with a mission abroad to raise a loan of some Tls. 12,000,000 for the purpose of establishing a bank. With such loans will be introduced some measure of foreign supervision, and the initial steps in this direction may prove most unpopular. Unless Yuan Shih-kai could count on absolute freedom from Court and official intrigue, it might be wiser for him not to accept office until these loans have been negotiated. If, on the other hand, he can be sure of himself and of his position, it would be better to have a voice in the disposal of the money that is absolutely necessary for carrying out the numerous reforms to which the Government has pledged itself."

## OBITUARY

The news of the death of Mr. William C. Cowie, Chairman and Managing Director of the British North Borneo Company, September 14th, at the age of 62 years, was a severe shock to the many friends of the British North Borneo pioneer. The *London and China Express* pays a warm tribute to the memory of the deceased which we quote in part:

"Mr. Cowie, who has been associated with Borneo for very nearly forty years, has been a director of the Chartered Company for many years, has been managing director for about a decade, but has only held the position of Chairman of the Court of Directors for rather less than a year. His colleagues elected him to this position because of the grasp he had of the company's affairs and the labour he had ungrudgingly given—in season and out of season, it may be remarked—to foster the development of the 30,000 square miles of territory owned by the company. His energy and his extremely sanguine temperament were assets of great value in formulating schemes for the material progress of the country. When he was elected chairman in October of last year it was generally conceded that he had fairly earned the distinction. Mr. Cowie was also on the boards of the Beaufort Borneo Rubber Company, the British North Borneo Exploration Company, Langkon North Borneo Rubber, Manchester North Borneo Rubber, Membakut Rubber, and North Borneo State Rubber. He had had a most adventurous life. He was manager of the Wardmill Works at Arbroath of Messrs. M. C. Thomson and Co., Glasgow. Mr. Cowie, having finished his apprenticeship at Arbroath, went to Glasgow, where he afterwards shipped as chief engineer on board a small steamer, named the *Argyle*, bound for Singapore. This was at the age of 19. He entered the service of the Sultan of Rhio and Linga to whom the *Argyle* had been sold. Afterwards in partnership with a merchant named Shomburgk, he traded in the Sulu Archipelago, the Labuan Trading Company being formed by them.

"It will be unnecessary here to detail the part taken by Mr. Cowie in the various steps by which North Borneo became British. Mr. (Rajah) Torrey, an American, was the first on the scene, then followed the late Baron Overbeck (a partner in Dent and Co.), and Mr. (now Sir) Alfred Dent is another name that will occur, but it was Mr. Cowie's influence with the Sultans of Brunei and Sulu that was a chief factor in that stage. In those early pioneering days, head-hunting, piracy, and slavery were rampant, and, we hope, received their quietus with the death of Mat Salleh. Life and property were absolutely insecure, and chaos reigned supreme throughout the land. Now, it is claimed, the Chartered Company's territory is a model colony, and life and property are as safe there as they are in any other part of the British Empire.

"Owing to strenuous efforts of the late Mr Cowie, and his indefatigable work, the net revenue has greatly increased, and with the capital now being poured into the country through the creation of a number of rubber planting companies, a new vista has been opened. The results of this policy, so largely fostered by Mr. Cowie, he has not been spared to see; he was only destined to know that both from an Imperial point of view, and also as affording a splendid field for the profitable employment of British surplus capital, North Borneo had received some part of the recognition that its capabilities merited."

## REVIEWS

*Desk Book*, prepared under the direction of John S. Leech, Director of Printing, Manila, and compiled by a committee of employees consisting of Messrs. Samuel H. Musick, Walter R. Johns, and Walter F. McLennan.

"Desk Book" is a significant title to all editors and printers, but we have yet to review a compilation that covers the field of constructive typography more comprehensively. The volume itself is typographically, as model, the best recommendation of the excellent compilation of modern type styles and their application by demonstration presented in the most attractive form. It is an education in itself. Authors, bookbinders, compositors, copyholders, imposers, photo engravers, pressmen, proof readers, requisitioners, stereotypers and electrotypers have been provided with a fund of technical information that will prove of inestimable value in securing expedition and thoroughness in their work. Besides the above, a manual of style and a compilation of useful information is included that deserves especial commendation.

This work was compiled for the guidance of the officials and employees of the Bureau of Printing, Manila, but it might well be utilized to great advantage as a compendium of practical information by every modern publishing house. We regret that the work has not been put on sale as we believe it would be warmly welcomed by every editor, publisher and printer to whom the beautiful in typography makes special appeal.

*Who's Who in Mining and Metallurgy for* 1910.—Issued from the presses of the *Mining Journal*, London. Price 15s. net.

The second edition of this valuable work maintains the high standard of its initial form and may be said to be the most complete and reliable epitome of the world's mining industry. "Who's Who in Mining and Metallurgy" is a brave departure involving an enormous responsibility and much hard work, but its reception has fully rewarded the editors and publishers. It should find a place in every public library and no one interested in the large field of mining should fail to keep it among his collection of books, of reference.

*Paulino, a Tale of the Philippines*, by George A. Miller.—The Methodist Publishing House, Manila.

This brochure deals with the religious situation in the Philippines, with special reference to the reception by the natives of the separation of church and state upon American occupation. The author includes some graceful pen pictures of native life and customs and weaves into his work the romance of two lowly characters who pass through many trials not disassociated with spiritual perplexities and persecutions, to live happily ever after.

*Concrete from Sand Molds*.—By A. A. Houghton, author of "Ornamental Concrete, Without Molds," "Practical Use of Concrete," etc., the Norman W. Henley Publishing Co., New York. Price, $2.00 U. S. C.

This work includes fifteen chapters devoted to the process of molding concrete with sand molds and demonstrating the ease, rapidity and economy of the process. It also covers the field in detail with regard to ornamental designs, involving a process that has hitherto been regarded as a trade secret.

# RAILWAYS OF THE PHILIPPINES FOR 1910

In concluding his report covering the fiscal year ended June 30th, 1910 Mr. Loomis F. Goodale, Supervising Railway Expert for the Philippine Government, says:

"The increased and increasing prosperity of the islands is reflected by the results of the operation of the rail lines shown by the increasing incomplete reports herein, and the indications are that much more satisfactory returns will be made for the fiscal year, 1911."

The following excerpts from Mr. Goodale's report indicate the progress made during the twelve months and the tables accompanying them will be of interest:

LEGISLATIVE OR ADMINISTRATIVE ACTS DURING THE YEAR RELATING TO OR AFFECTING RAILROADS.

*Manila Railroad Company.*—Act No. 1905, enacted by the Philippine Legislature on May 19, 1909, covering guaranty of interest on the bonds of the Manila Railroad Company on its lines south of Manila, the Baguio line and the New Port line at Manila, was formally accepted by the Manila Railroad Company on August 2, 1909, and said Act became fully effective on January 28, 1910, when the Honorable, the Secretary of War of the United States approved the waiver of the lien of the then existing mortgages on the Southern Lines of the Manila Railroad, as required by Act No. 1905.

*Philippine Railway Company.*—On application being made by this Company on August 23, 1909, for an extension of the time for filing final plans of its lines on the Islands of Panay and Negros, the Acting Governor-General, on September 20, 1909, extended this time indefinitely, with the proviso that these plans shall be submitted for approval within thirty days after they have been requested by the Government.

## GENERAL REVIEW.

The condition of construction, the results of operation, and statistics in relation to the Railroads of the Philippine Islands on June 30, 1910, and for the fiscal year ended June 30, 1910, unless otherwise shown, are given below.

MANILA RAILROAD COMPANY.

*Construction.*

During the fiscal year 38.4 kilometers of grading were completed; 34.6 kilometers of track laid, and 27.4 kilometers of line put in operation.

In detail, progress from the beginning of work under Acts No. 1510 and 1905 to July 1, 1910, is as follows:

*Dagupan-San Fernando Line (Port Line, San Fernando.)*

Total length of line.......................................73.8 kilometers.
All of which has been located and the plans approved by the Governor-General.
Grading completed.......................................53.3 kilometers.
Track laid.......................................43.9 kilometers.
Length of line in operation.......................................43.0 kilometers.
Opened for operation during the year:
Agoo to South Aringay, July 26, 1909....................... 6.4 kilometers.
Track yet to lay.......................................29.9 kilometers.

*Camp One Line.*

Total length of line.......................................20.5 kilometers.
This line was opened for operation to near Camp One March 23, 1908.......................................19.4 kilometers.

*Baguio Line.*

No work of any kind has been done on this line.

*Paniqui-Tayug Line.*

Total length of line.......................................48.7 kilometers.
Surveys completed.......................................48.7 kilometers.
Plans presented for approval of Government.......................................34.0 kilometers.
Location approved by Governor-General.......................................34.0 kilometers.
Grading completed.......................................34.0 kilometers.
Track laid.......................................15.0 kilometers.
Track yet to lay.......................................33.7 kilometers.
No track has been laid on this line during the year. It was opened for operation.
Paniqui to Cuyapo June 30, 1908.......................................15.0 kilometers

*San Miguel-La Paz Line.*

Total length of line.......................................18.4 kilometers
Nothing has been done on this line during the year. Line has been located but will probably be revised.

*Dau-Magalang Line.*

Total length of line.......................................9.0 kilometers.
This line is entirely completed and was opened for operation on December 20, 1907.

*San Fernando-Florida Blanca Line.*

Total length of line.......................................24.5 kilometers.
This line is entirely completed and was opened for operation April 10, 1908.

*San Fernando-Arayat Line.*

Total length of line.......................................20.0 kilometers
Surveys have been completed and the location approved by the Governor-General, but no work of construction has been done.

*Mariquina-Montalban Line*

Total length of line.......................................12.9 kilometers.
This line is entirely completed and was put in operation April 17, 1907.

*Antipolo Line.*

Total length of line covered by Act No. 1510............... 9.4 kilometers.
This line is entirely completed and was opened for operation on December 24, 1908.

*New Port Line, Manila.*

Preliminary surveys only have been made on this line.

*Belt Line, Manila.*

Total length of line, (3.0 kilometers double track........... 9.6 kilometers
This line is entirely completed and single line was put in operation in April, 1908.
That portion of Belt Line which, under Act No. 1905 forms part of the "Southern Lines" will hereafter be included in the Batangas Line, or the Main Line South.

*Batangas Line.—(Batangas to Bauan; Port Line, Batangas; Camp McGrath Spur.)*

Total length of lines.......................................112.3 kilometers.
Surveys completed.......................................102.6 kilometers.
Plans presented for approval of Government.......................................102.6 kilometers.
Location approved by Governor-General.......................................102.6 kilometers.
Grading completed.......................................86.2 kilometers.
Track laid.......................................78.7 kilometers.
Total line opened.......................................75.4 kilometers
Line opened during the year:
Maquiling to Santo Tomas, Sept 8, 1909.................. 4.8 kilometers.
Santo Tomas to Tanauan, January 8, 1910.................. 3.0 kilometers.
Tanauan to Santo Toribio, June 4, 1910.......................................13.1 kilometers.
Track yet to lay.......................................33.6 kilometers.

*Cavite Line.—(Wyes at Binacayan.)*

Total length of line.......................................32.7 kilometers.
Surveys completed.......................................32.2 kilometers.
Plans presented for approval of Government.......................................32.2 kilometers.
Location approved by Governor-General.......................................32.2 kilometers.
Grading completed.......................................32.2 kilometers.
Track laid.......................................32.2 kilometers.
Line opened to San Roque, May 24, 1908.......................................32.2 kilometers.
Owing to change of the initial point of this line at Paco in connection with Act No. 1905, length of line has been increased 0.2 kilometer.

## CYANIDING IN THE PHILIPPINES

(*Continued from page 166.*)

the tailings from stamps after amalgamation. The principal point of difference is that it had six leachers of 50 tons capacity, where the Consolidated mill originally had four of 60 tons capacity. The character of the ore treated in the Bua mill is entirely different from that of the Consolidated, for, while the former is quartz and iron pyrites, with strong acid reaction and high values in slimes after crushing, the latter is chiefly calcite and rhodochrosite with more or less black oxide of manganese, the whole having a distinctly alkaline reaction, and giving a slime, on crushing, of low value. The treatment has therefore been simpler, and the results generally better on this ore.

The chief improvement which has been worked out on the Bua treatment since its inception has been the practice of turning the charge over by hand after the water has been drained off and before the solution has been put on. This is done by beginning near one edge of the tank and shoveling back crescent shaped sections and then with opening to start with turning over the material clear across the tank. With cheap labor, the cost is slight, four Igorots at 25 cents gold turning over 50-ton charge in a day. It is claimed that it increases the extraction by several per cent. and shortens the period of treatment by two or three days.

The Bua product has always been high grade and clean, owing to the absence of copper in the ore and a solution fairly free from salts. While actual operations on a commercial scale have been limited to the two properties mentioned, yet extensive tests on lots of ores from several properties in Masbate have invariably given high extraction results by fine grinding, agitation and filtration, but poor results from leaching. The all-sliming method would seem to have a wider application than leaching in all the districts where cyaniding is applicable to all in the one case where leaching has been given good results, it is an open question whether, with cheap water power available, fine grinding would not give returns sufficiently better to more than pay the difference in cost.

Cyaniding will probably not be successfully applied to the ores of the Paracale district, because these as a rule contain considerable amount of base metals, and gold is coarse, both of which conditions are against cyaniding. However, it is probable that further deposits of ore in which the gold is finely divided will be found in the islands and if such deposits are free from copper and other deleterious substances, and are fairly large, so as to assure a good tonnage, they will not need to be high grade in order to be worked at a profit by the cyanide process in its present highly developed state.

*Naic Line.—(Wyes at Noveleta.)*

| | |
|---|---|
| Total length of line | 19.9 kilometers. |
| Survey completed | 19.9 kilometers. |
| Plans presented for approval of Government | 19.9 kilometers. |
| Location approved by Governor-General | 19.9 kilometers. |
| Grading completed | 12.3 kilometers. |
| Track laid | None. |

*Calamba-Santa Cruz-Magdalena Line.*

| | |
|---|---|
| Total length of line | 48.3 kilometers. |
| Survey completed | 15.3 kilometers. |
| Plans presented for approval of Government | 15.3 kilometers. |
| Location approved by Governor-General | 15.3 kilometers. |
| Grading completed | 15.3 kilometers. |
| Track laid | 8.4 kilometers. |
| Line opened | None. |
| Track yet to lay | 39.9 kilometers. |

*Santo Tomas (Luta) Lucena Line.*

| | |
|---|---|
| Total length of line | 63.2 kilometers. |
| Survey completed | 63.2 kilometers. |
| Plans presented for approval of Government | 63.2 kilometers. |
| Location approved by Governor-General | 63.2 kilometers. |
| Grading completed | 12.0 kilometers. |
| Track laid | 2.4 kilometers. |
| Line opened | None. |
| Track yet to lay | 60.8 kilometers. |

*Lucena-Nueva Caceres Line.*

Total length of line, (approximate) ........ 228.3 kilometers.
Nothing has yet been done on this line.

*Legaspi-Nueva Caceres Line.—(Legaspi to Tabaco; Legaspi Port Line; Tabaco Port Line; Ligao East; Tabaco West; Pili to Lagonoy.)*

| | |
|---|---|
| Total length of line, (approximate) | 191.4 kilometers. |
| Surveys completed | 102.6 kilometers. |
| Plans presented for approval of Government | 80.9 kilometers. |
| Location approved by Governor-General | 31.0 kilometers. |
| Grading completed | 16.0 kilometers. |
| Track laid | 1.0 kilometer. |
| Line opened | None. |

Under Act No. 1510 the Manila Railroad Company was required to have 240 kilometers of its lines completed on September 12, 1909. As a matter of record 235.1 kilometers had been completed on that date.

Act No. 1905 extends the time of completion of the lines covered by Acts No. 1510, 1714 and 1905 to September 12, 1918.

At the end of the fiscal year 1910 there remained to be completed approximately 732.5 kilometers of line, which will require the construction of about 90.0 kilometers per year to fulfill this condition of the contract.

PHILIPPINE RAILWAY COMPANY.

*Island of Cebu.—Construction.*—The work of construction on this Island, nearly completed more than a year ago, has not yet been entirely finished. There remains to be charged to construction account, so far as known at present, additional stores, additional equipment, the finishing of three station lay-outs recently approved, the reconstruction of the water supply at Argao and Carcar, the construction of the second track to the wharf at Cebu, which latter work will probably not be required for some years, and the construction of two warehouses and a track to the sea at Argao, which work, although approved, will probably not be done.

Certificates for the issuance of bonds for the construction of the railroad line on this Island to the end of the fiscal year have been made as follows:

| Date of Certification | First Bond Section 32.2 kilometers | Second and Partial Bond Sections 63.4 kilometers | Total |
|---|---|---|---|
| Previous fiscal years | $1,443,000.00 | $1,597,000.00 | $3,040,000.00 |
| April 9, 1910 | 40,000.00 | 112,000.00 | 152,000.00 |
| Totals | $1,483,000.00 | $1,709,000.00 | $3,192,000.00 |

The above values are in United States currency.

As the length of this line is 59.4 miles (95.6 kilometers) bonds have been issued at the rate of $53,737.38 per mile, or ₱66,778.24 per kilometer.

*Island of Panay.—Location.*—Except for the terminal at Batan, the location of the line on this Island has been presented and approved.

*Grading and Track Laying.*—At the end of the fiscal year the grade and track were preliminarily completed from Iloilo north 87.2 kilometers (54.2 miles) and from Capiz south 14.3 kilometers (8.9 miles), with the remainder of grade between the completed portions approximately 90% done, leaving 14.8 kilometers (9.2 miles) of uncompleted grade and track between the terminals mentioned, with the probability of very little delay to the track work, except at bridges.

*General.*—Permanent bridge structures have been completed, with few exceptions, from Iloilo north 78.8 kilometers (49.0 miles); final ballasting has been completed from Iloilo north 68.4 kilometers (42.5 miles), and permanent station buildings have been completed (except at Iloilo) from the same terminal for 83.3 kilometers (51.8 miles), with the terminal buildings at Capiz practically finished.

The work of constructing the terminal at Lapus (Iloilo) so far as at present contemplated, is completed, except a comparatively small amount of earthwork filling, the passenger terminal, and wharves for the store and freight houses.

The line between Iloilo and Capiz should be preliminarily completed not later than October 1, 1910, and finally completed by January 1, 1911.

*Bonds.*—Certificates for the issuance of bonds for the construction of the line on this Island have been made as follows:

| Date of Certification | First Bond Section 32.2 kilometers | Second Bond Section 32.2 kilometers | Total. |
|---|---|---|---|
| Previous fiscal years | $1,732,000.00 | $1,108,000.00 | $2,840,000.00 |
| January 6, 1910 | 94,000.00 | 210,000.00 | 304,000.00 |
| April 9, 1910 | 66,000.00 | 37,000.00 | 103,000.00 |
| Totals | $1,892,000.00 | $1,355,000.00 | $3,247,000.00 |

The above values are in United States currency.

Bonds have therefore been issued in the amount of $81,175.00 per mile for the forty miles bonded, or ₱100,838.51 per kilometer.

With the completion and bonding of the remainder of the line the cost per unit of length should be reduced considerably.

*Island of Negros.*—The location of the line on this Island has been approved by the Governor-General, except for the terminal at Bacolod, no construction work having been done.

The total amount of grading completed during the year was 30.2 kilometers (18.4 miles), and track laid during the same period 32.1 kilometers (20.0 miles).

*Operation.*—In addition to the 95.6 kilometers (59.4 miles) in full commercial operation during the year on the Island of Cebu, there were 71.1 kilometers (44.2 miles) technically in construction-operation, with a total of 96.5 kilometers (60.0 miles) in actual construction-operation on the Island of Panay at the end of the year; the average length in construction-operation being about 74.7 kilometers (46.6 miles).

STATEMENT.

*Showing Distribution of Rolling Stock as of June 30, 1910*

| | *Cebu Division* | *Panay Division* | *Total.* |
|---|---|---|---|
| *Locomotives.* | | | |
| Class "A" (50 Tonne) | 1 | 3 | 4 |
| Class "B" (35 Tonne) | 4 | 4 | 8 |
| Class "C" (14 Tonne)* | 0 | 3 | 3 |
| | 5 | 10 | 15 |
| *Passenger Cars.* | | | |
| Combination 1st Class and Parlor Car | 0 | 1 | 1 |
| Combination 1st and 2nd Class Coach | 4 | @ 2 | % 6 |
| Combination Baggage and 2nd Class Coach | 3 | ? 2 | 5 |
| Second Class Coaches | 6 | 5 | 11 |
| 20 Tonne Market Cars | 6 | 6 | 12 |
| 30 Tonne Market Cars | 3 | 0 | 3 |
| Small Iligan Cars | 0 | 2 | (a) 2 |
| | 22 | 18 | 40 |
| *Revenue Freight Cars.* | | | |
| 7 Tonne Box Cars | 0 | 4 | (a) 4 |
| 10 Tonne Flat Cars | 2 | 11 | 13 |
| 20 Tonne Flat Cars | 1 | 4 | 5 |
| 30 Tonne Flat Cars | 0 | 22 | 22 |
| 40 Tonne Flat Cars | 8 | 38 | 46 |
| 10 Tonne Box Cars | 7 | 16 | 23 |
| 20 Tonne Box Cars | 13 | 9 | 22 |
| 10 Tonne Stock Cars | 2 | 2 | 4 |
| 20 Tonne Stock Car | 0 | 1 | 1 |
| | 33 | 107 | 140 |
| *Work Cars.* | | | |
| 40 Tonne Flat Cars (Derricks) | 1 | 2 | 3 |
| 40 Tonne Flat Car (Pile Driver) | 0 | 1 | 1 |
| 30 Tonne Roger Ballast Cars | 15 | 47 | 62 |
| | 16 | 50 | 66 |

(a) Cars from Iligan Military Line, Purchased Locally.
* Dutch Locomotives Purchased Locally.
@ Two Converted From Second Class Coaches.
% One Converted From Second Class Coach.
? One Converted From Second Class Coach.

*Equipment Originally Purchased.*

4 Locomotives, Class "A" (50 Tonne).
8 Locomotives, Class "B" (35 Tonne).
4 Combination 1st Class and Parlor Cars.
4 Combination Baggage and 2nd Class Coaches
15 Second Class Coaches.
40 Ten Tonne Cars.
40 Twenty Tonne Cars.
25 Thirty Tonne Cars.
50 Forty Tonne Cars.
62 Thirty Tonne Roger Ballast Cars.

Some reductions have been made in the freight rates during the year and on July 20, 1909, a third class passenger rate of one and one-half centavos per kilometer was put in effect, all of which has been productive of good results, and it is believed that further reductions, particularly in freight rates would be of benefit.

Seeds, plants, agricultural implements and machinery, when for the use of the inhabitants along the line, have been transported without charge since July 6, 1909.

As heretofore, it is noted that a much larger area placed under cultivation follows the extension of railway lines, and it is hoped and expected that the additional earnings resulting therefrom will, in a few years time by economical management, be sufficient to pay operating expenses and at least a portion of the heavy fixed charges.

## DAET TRAMWAYS.

This company operates a line 7.24 kilometers connecting Daet and Mercedes in the Camarines. Carabao are used for motor power and the traffic is largely in hemp and passengers. During the year, according to Mr. Goodale's report, 15,000 passengers and 6,131 tons of freight were transported.

The total revenue for the year 1910 amounted to ₱20,651.66, an increase of ₱3,713.26 over the previous year, while the operating expenses amounted to ₱14,179.37, an increase of ₱1,636.64 over the previous year. The net income amounted to ₱6,472.29, an increase of ₱2,076.62. The percentage of operating expenses to operating revenue was 68 in 1910 as against 74 in 1909.

LENGTH OF LINES IN OPERATION.

| Territory Covered | Kilometers. 1908 Main Line | 1908 Sidings | 1908 Total | On June 30, 1910. Main Line | On June 30, 1910. Sidings | On June 30, 1910. Total |
|---|---|---|---|---|---|---|
| **Main Line:** | | | | | | |
| **Manila to Dagupan** | 195.4 | 41.3 | 236.7 | 195.4 | 41.3 | 236.7 |
| **Cabanatuan Branch:** | | | | | | |
| **Bigaa to Cabanatuan** | 91.5 | 8.0 | 99.5 | 91.5 | 8.0 | 99.5 |
| **Antipolo Branch:** | | | | | | |
| **Manila to Antipolo** | 33.9 | 4.2 | 38.1 | 33.9 | 4.2 | 38.1 |
| **Mariquina Branch:** | | | | | | |
| **Rosario to Montalban** | 17.5 | 1.2 | 18.7 | 17.5 | 1.2 | 18.7 |
| **Stotsenberg Branch:** | | | | | | |
| **Dau to Stotsenberg** | 7.0 | 1.3 | 8.3 | 7.0 | 1.3 | 8.3 |
| **Dau-San Pedro-Magalang Branch:** | | | | | | |
| **Dau to San Pedro Magalang** | 9.0 | 1.2 | 10.2 | 9.0 | 1.2 | 10.2 |
| **Florida Blanca Branch:** | | | | | | |
| **San Fernando to Florida Blanca** | 24.5 | 2.9 | 27.4 | 24.5 | 2.9 | 27.4 |
| **Camp One Branch:** | | | | | | |
| **San Fabian to Camp One** | 19.5 | 1.5 | 21.0 | 19.5 | 1.5 | 21.0 |
| **San Fernando Union Line:** | | | | | | |
| **Dagupan to South Aringay** | 36.5 | 3.3 | 39.8 | 43.0 | .... | 43.0 |
| **Cavite Branch:** | | | | | | |
| **Paco to San Roque** | 32.0 | 3.6 | 35.6 | 32.2 | 3.6 | 35.8 |
| **Tayug Branch:** | | | | | | |
| **Paniqui to Cuyapo** | 15.0 | 1.1 | 16.1 | 15.0 | 1.1 | 16.1 |
| **Batangas Line including Belt:** | | | | | | |
| **Santa Mesa to Santo Toribio** | 41.0 | 4.2 | 45.2 | 78.5 | .... | 78.5 |
| Totals | 522.8 | 73.8 | 596.6 | 567.0 | 66.3 | 633.3 |

There was no change in length of operated lines during the calendar year 1909.

No rail was relaid on operated lines, and but little permanent bridge work was done during the year.

Track was kept in excellent condition.

The *results of operation* for the calendar years of 1908 and 1909 were as follows:

REVENUE FROM TRANSPORTATION (*a*).

| | 1908 | 1909 | Decrease | Increase |
|---|---|---|---|---|
| **Freight Revenue.** | ₱741,846.12 | ₱783,571.47 | | ₱41,725.35 |
| **Passenger Revenue** | 1,352,029.58 | 1,220,006.27 | œ132,023.31 | |
| **Mail Revenue** | 28,761.61 | 17,827 67 | 10,933.94 | |
| **Miscellaneous** | | 13,620.34 | | 13,620.34 |
| **Totals** | ₱2,122,637 31 | ₱2,035,025.75 | ₱87,611.56 | |

REVENUE FROM OPERATION OTHER THAN TRANSPORTATION (*a*)

| | 1908 | 1909 | Decrease | Increase |
|---|---|---|---|---|
| **Station and train privileges** | In Rents. | ₱4,196.32 | | ₱4,196.32 |
| **Storage of Freight** | In Freight. | 1,075.00 | | 1,075.00 |
| **Storage of Baggage** | In Freight. | 11.66 | | 11.66 |
| **Rents of buildings and property** | ₱30,100.97 | 4,944.08 | ₱25,156.89 | |
| **Miscellaneous** | | 2,370.89 | | 2,370.89 |
| **Totals** | ₱30,100.97 | ₱12,597.95 | ₱17,503.02 | |

(*a*) For the main line, Manila to Dagupan, and the Cabanatuan Antipolo, Mariquina and Stotsenberg Branches only.

OPERATING EXPENSES (*a*).

| | 1908 | 1909 | Decrease | Increase |
|---|---|---|---|---|
| Maintenance of Way and Structures | ₱240,046.53 | ₱229,901.96 | ₱10,144.57 | |
| Maintenance of Equipment | 385,625.41 | 122,913.88 | 262,711.53 | |
| Traffic Expenses | } 270,741.46 | 18,313.54 | | } ₱192,032.45 |
| Transportation Expenses | | 444,460.37 | | |
| General Expenses | 115,345.85 | 85,190.04 | 30,155.81 | |
| Totals | ₱1,011,759.25 | ₱900,779.79 | ₱100,979.46 | |

OPERATING INCOME (*a*).

| | 1908 | 1909 | Decrease | Increase |
|---|---|---|---|---|
| Total Operating Revenue | ₱2,152,738.28 | ₱2,047,623.70 | ₱105,114.58 | |
| Total Operating Expenses | 1,011,759.25 | 900,779.79 | 110,979.46 | |
| Net Operating Revenue | ₱1,140,979.03 | ₱1,146,843.91 | | ₱5,864.88 |
| Taxes | 15,536.91 | 10,238.09 | ₱5,298.82 | |
| Operating income | ₱1,125,442.12 | ₱1,136,605.82 | | ₱11,163.70 |
| Percentage of Operating Expenses to Gross Operating Revenue | 47.0 | 44.0 | 3.0 | |

(*a*) For the main line, Manila to Dagupan, and the Cabanatuan, Antipolo, Mariquina and Stotsenberg Branches only.

| | 1908 | 1909 | Decrease | Increase |
|---|---|---|---|---|
| Passenger revenue per train kilometer | ₱1.168 | ₱1.633 | | ₱0.465 |
| Freight revenue per train kilometer | 3.087 | 3.185 | | 0.098 |
| Total revenue per train kilometer | ₱1.493 | ₱2.049 | | ₱0.556 |
| Operating expenses per train kilometer | 0 712 | 0.907 | | 0.951 |
| Net revenue per train kilometer | ₱0.781 | ₱1.142 | | ₱0.361 |
| Passenger revenue per kilometer of line | ₱4,113.17 | ₱3,559.99 | ₱553.18 | |
| Freight revenue per kilometer of line | 2,209.85 | 2,286.47 | | ₱76.62 |
| Miscellaneous revenue per kilometer of line | 89.67 | 91.76 | | 2.09 |
| Total revenue per kilometer of line | ₱6,412.69 | ₱5,938.22 | ₱474.47 | |
| Operating expenses per kilometer of line | 3,013.88 | 2,628.48 | 385.40 | |
| Net revenue per kilometer of line | ₱3,398.81 | ₱3,309.74 | ₱89.07 | |
| Average amount received per kilometer per passenger | ₱0.0202 | ₱0.0211 | | ₱0.0009 |
| Average amount received per passenger | 0.5088 | 0.6000 | | 0.0912 |
| Average amount received per tonne of freight per kilometer | 0.0302 | 0.0342 | | 0.0040 |
| Average amount received per tonne of freight | 2.3052 | 2.1952 | ₱0.1100 | |
| Average haul per passenger, kilometers | 25.00 | 28.58 | | 3.58 |
| Average haul per tonne of freight, kilometers | 76 00 | 65.86 | 10.14 | |
| Passengers hauled one kilometer | 58,276,903 | 57,780,190 | 496,713 | |
| Tonnes of freight hauled one kilometer | 19,253,495 | 22,912,071 | | 3,658,576 |

The *equipment* of this line was:

| | 1908 | 1909 | Decrease | Increase |
|---|---|---|---|---|
| Passenger and freight engines | 72 | 88 | | 16 |
| First class passenger cars | 9 | 9 | | |
| First and second class passenger cars | 10 | 25 | | 15 |
| Second class passenger cars | 10 | 10 | | |
| Third class passenger cars | 86 | 91 | | 5 |
| Inspection cars | 2 | 3 | | 1 |
| Freight cars | 1046 | 1055 | | 9 |
| Miscellaneous cars | 67 | 53 | 14 | |

*Accidents* during the year were:
82 Class A, serious;
36 Class B, not serious; and
118 Class C, minor.

In addition to minor interruptions to the traffic of the line on account of washouts, serious trouble was occasioned by the "baguios" of October 17th and 24th, 1909, operation being suspended for some days on the line north and south of Dagupan, and for some weeks on the line to Camp One.

NOTE.—The report of the operation of the Manila Railroad Company is for the year ended December 31, 1909.

The Dau-San Pedro Magalang and the Florida Blanca Branches of this Railroad were placed in full commercial operation on January 1, 1910, prior to which time these branches had been in construction-operation, the cost of and earnings from operation having been charged and credited to construction account.

None of the guaranteed lines under Act No. 1905 had been placed in full commercial operation at the end of the fiscal year. It is the intention to do so, however, as of May 1, 1910, on the first three bond sections (forty miles of the Batangas Line and twenty miles of the Cavite Line) when authority to issue bonds on these sections is requested, which is expected to be about July 15, 1910.

The results obtained from the construction-operation of guaranteed lines preliminary completed indicate that their earnings will be sufficient to not only pay operating charges, but to care for the interest on bonded indebtedness.

MANILA ELECTRIC RAILROAD AND LIGHT COMPANY AND MANILA SUBURBAN RAILWAYS COMPANY.

*Construction.*—No work of construction has been done during the year.

*Operation.*—The results of operation of these lines for the fiscal years 1909 and 1910 were as follows:

*Manila Electric Railroad and Light Company.—Kilometrage of Lines in Operation.*

| | Fiscal year 1909 | | | | Fiscal Year 1910. | | | |
|---|---|---|---|---|---|---|---|---|
| | Main Line | Second Track | Sidings | Total | Main Line | Second Track | Sidings | Total |
| Kilometrage | 39.8 | 17.2 | 6.2 | 63.2 | 39.8 | 17.2 | 6.2 | 63.2 |

*Operating Revenue.*

| | F. Y. 1909 | F. Y. 1910 | Decrease | Increase |
|---|---|---|---|---|
| Revenue from Transportation | ₱ 948,822.97 | ₱1,040,303.86 | | ₱91,480.89 |
| Miscellaneous Revenue | 77,553.23 | 84,308.45 | | 6,755.22 |
| Totals | ₱1,026,376.20 | ₱1,124,612.31 | | ₱98,236.11 |

*Operating Expenses.*

| | F. Y. 1909 | F. Y. 1910 | Decrease | Increase |
|---|---|---|---|---|
| Maintenance of Way and Structures | ₱ 80,502.83 | ₱56,151.40 | ₱24,351.43 | |
| Maintenance of Equipment | 94,810.22 | 113,107.40 | | ₱18,297.18 |
| Traffic and Transportation Expenses | 211,286.06 | 229,060.14 | | 17,774.08 |
| Miscellaneous Expenses | Not given. | 207,892.40* | ........ | ........ |
| Totals | ₱ 594,662.78* | ₱ 606,211.34* | | ₱11,548.56* |
| Operating income | ₱ 431,713.42 | ₱ 518,400.97 | | ₱86,687.55 |
| Percentage of Operating Expenses to Gross Revenue | 57.9 | 53.9 | 4.0 | |

*Estimated.

*General Information.*

| | F. Y. 1909 | F. Y. 1910 | Decrease | Increase |
|---|---|---|---|---|
| Total number of paying passengers carried | 10,437,841 | 12,379,248 | | 1,941,407 |
| Average earnings per passenger | ₱0.0980 | ₱0.0908 | ₱0.0072 | |
| Average expense per passenger | 0.0570 | 0.0489 | 0.0081 | |
| Net earnings per passenger | ₱0.0410 | ₱0.0419 | | ₱0.0009 |
| Equipment consisted of | | | | |
| Motor cars | 105 | 105 | | |
| Work cars | 1 | 1 | | |
| Wrecking cars | 1 | 1 | | |
| Water sprinklers | 1 | 1 | | |

MANILA SUBURBAN RAILWAYS COMPANY.

*Kilometrage of Lines in Operation.*

| | Fiscal Year 1909 | | | | Fiscal Year 1910 | | | |
|---|---|---|---|---|---|---|---|---|
| | Main Line | Second Track | Sidings | Total | Main Line | Second Track | Sidings | Total |
| Kilometrage | 9.9 | .... | 1.7 | 11.6 | 9.9 | .... | 1.7 | 11.6 |

*Operating Revenue.*

| | F. Y. 1909 | F. Y. 1910 | Decrease | Increase |
|---|---|---|---|---|
| Revenue from Transportation | ₱189,212.70 | ₱214,631.52 | | ₱25,418.82 |
| Miscellaneous Revenue | 1,543.30 | 1,038.88 | ₱ 504.42 | |
| Totals | ₱190,756.00 | ₱215,670.40 | | ₱24,914.40 |

*Operating Expenses.*

| | F. Y. 1909 | F. Y. 1910 | Decrease | Increase |
|---|---|---|---|---|
| Maintenance of Way and Structures | ₱ 8,856.36 | ₱ 26,002.68 | | ₱17,146.32 |
| Maintenance of Equipment | 527.91 | 142.46 | ₱ 385.45 | |
| Traffic and Transportation Expenses | Valueless. | 24,451.86 | ........ | ........ |
| Miscellaneous Expenses | Valueless. | 72,844.22* | ........ | ........ |
| Totals | ₱ 95,823.99 | ₱123,441.22* | | ₱27,617.23 |
| Operating income | ₱ 94,932.01 | ₱ 92,229.18 | ₱ 2,702.83 | |
| Percentage of Operating Expenses to Gross Revenue | 50.2 | 57.3 | | 7.1 |

*Estimated.

*General Information.*

| | F. Y. 1909 | F. Y 1910 | Decrease | Increase |
|---|---|---|---|---|
| Total number of paying passengers carried | 2,702,227 | 3,173,692 | | 471,465 |
| Average earnings per passenger | ₱0.0700 | ₱0.0679 | ₱0.0021 | |
| Average expenses per passenger | 0.0350 | 0.0388 | | ₱0.0038 |
| Average net earnings per passenger | ₱0.0350 | ₱0.0291 | ₱0.0059 | |
| Equipment consisted of | | | | |
| Motor cars | 6 | 6 | | |
| Motor cars, freight | 3 | 3 | | |
| Flat cars | 4 | 4 | | |

A summary of the grading and track laying completed, with kilometrage of lines put in operation during the year, is shown in the following table:

| ROAD. | KILOMETERS Grading Completed | Track Laid | Lines Opened |
|---|---|---|---|
| Manila Railroad Company | 38.4 | 34.6 | 27.4 |
| Manila Electric Railroad and Light Company | .... | .... | .... |
| Manila Suburban Railways Company | .... | .... | .... |
| Tarlac Railway Company | .... | .... | .... |
| Daet Tramway Company | .... | .... | .... |
| Philippine Railway Company | 30.2 | 32.1 | 8.1 |
| Insular Coal Company | .... | .... | .... |
| Totals | 68.6 | 66.7 | 35.5 |

The following table gives kilometrage of railroad lines authorized by law in the Philippine Islands, with the length constructed, to be constructed, and in operation on June 30, 1910.

| ROAD. | Autherized | Constructed in operation | Constructed not in operation | To be constructed |
|---|---|---|---|---|
| Manila Railroad Company | 1,315.5*a* | 567.0 | 16.0 | 732.5*a* |
| Manila Electric Railroad and Light Company | 45.0 | 39.8 | .... | 5.2 |
| Manila Suburban Railways Co. | 19.9 | 9.9 | .... | 10.0 |
| Tarlac Railway Company | 20.6 | 20.6 | .... | .... |
| Daet Tramway Company | 7.2 | 7.2 | .... | .... |
| Philippine Railway Company | 368.6 | 168.1 | 29.0 | 171.5 |
| Insular Coal Company | 12.0 | 12.0 | .... | .... |
| Totals | 1,788.8 | 824.6 | 45.0 | 919.2 |

*a* Approximate.

Of the "Northern System" lines of the Manila Railroad Company 457.2 kilometers have been built, leaving 103.1 kilometers yet to build; of the "Southern System" lines 125.8 kilometers have been built, leaving 629.4 kilometesr yet to build.

# CONTRACTING NEWS

BIDS OPENED.—Bureau of Public Works, Manila.—A two 23-meter span reinforced concrete bridge.—The bidders were: P. Corona and A. Luraschi, ₱39,489; F. D. Hayden, ₱40,412; John Gordon, ₱43,900; A. F. Allen, ₱48,500; the Atlantic, Gulf and Pacific Company, ₱55,634; and the Manila Construction Company, ₱57,352.

---

A TWO 7-METER SPAN REINFORCED CONCRETE BRIDGE.—Bidders were: F. D. Hayden, ₱8,500; P. Corona and A. Luraschi, ₱8,483; Macchetti Brothers, ₱8,777; Manila Construction Company, ₱9,790; and John Gordon, ₱9,400.

---

GIRDER BRIDGE OF FIVE 5.86 METER SPANS ON REINFORCED PILE BENTS.—Bidders were: A. F. Allen, ₱11,385 and Corona and Luraschi, ₱14,800.

---

PLUMBING AND EQUIPMENT FOR LOS BAÑOS LABORATORY.—Bidders: S. C. Choy, ₱3,900 for furnishing and equipment and ₱1,924 for the plumbing; John Gordon, ₱6,100 for furnishing and equipment, ₱2,250, plumbing; D. E. Blossom, ₱2,125 for plumbing; the American Hardware and Plumbing Company ₱2,804 for plumbing.

---

ERECTION OF NEW HOSPITAL SERVICE BUILDING, REINFORCED CONCRETE.—Bidders: The Manila Saw Mill Company, ₱46,980, the work to be completed in 240 days with an additional cost of ₱165 for the covered passage; The Manila Construction Company ₱51,275, in 240 days; Coleman and Goodman ₱52,850 in 240 days; M. B. Zarate ₱54,400 in 250 days; O. F. Campbell ₱56,927 in 240 days; and John Gordon ₱58,700 in 250 days with an additional ₱110 for the covered passage.

---

ZAMBOANGA ELECTRIC LIGHT, POWER AND WATER SUPPLY.—There was only one bidder, the Zamboanga Company.

---

PROPOSALS INVITED.—Tientsin-Pukow Railway (Southern Section). Third Class Passenger Cars. Sealed tenders are invited for the supply to this Railway of twelve (12) third class passenger cars. Specification and Blue Prints of same may be obtained from the Railway Purchasing Agent, Taotai Y. C. Tong, Imperial Chinese Telegraphs, The Bund, Shanghai, on the payment of a fee of Dollars Twenty-five ($25.00) which amount will be returned, upon application to the Agent, on receipt of a bona fide tender.

Tenders should be addressed to the Managing Director, Tientsin-Pukow Railway, Southern Section, Nanking, and should be clearly marked on the outside "Tender for Twelve Third Class Passenger Cars, Indent No. 104." They will be opened at the Head Office, Nanking, at 10 a. m., 1st December, 1910. No tenders submitted after the hour mentioned will be considered.

Tenderers are requested to carefully note the following conditions: All the Cars must be delivered "ex ship's slings" on the Railway Wharf at Pukow at Contractor's risk and cost, before end of June, 1911. A fine of Five Shillings per Car per day will be deducted from the contract price as liquidated damages for each day car or any part of it remains undelivered after the date mentioned. Customs Duty and Wharfage Dues at Pukow for Railway account, all other charges for Contractor's account.

Quotations must be in Sterling and the names of proposed makers must be stated. Payment will be made Twenty (20) days after complete acceptance of each shipment, in Shanghai or London at Contractor's option.

---

PUBLIC WORKS DEPARTMENT, SYDNEY, NEW SOUTH WALES.—Coal Loading Plant capable of delivering into ships' holds about 1,000 tons of coal per hour at each side of a new jetty to be erected at Port Kemble, South Coast, N.S.W. Contractors' Room, Public Works Department. Sydney; and Office of the Agent-General of New South Wales, London. Bids opened January 9th, 1911.

---

CHIEF QUARTERMASTER, PHILIPPINES DIVISION.—Puttees.—Sealed proposals, in triplicate, subject to the usual conditions, for furnishing 280,000 Pairs Woolen Puttees, will be received here until 11:00 a. m., November 1st, 1910, and then publicly opened. Information and blank forms furnished upon application.

---

CONSTABULARY CLOTHING SUPPLIES.—Sealed proposals in triplicate, subject to the usual conditions, will be received at the office of the Chief Supply Officer Bureau of Constabulary, Old Oriente Building, Manila, until ten a. m., December 17, 1910, and then opened in the presence of attending bidders for furnishing the Bureau of Constabulary the following articles:

6,000 khaki hats.
24,000 cotton undershirts.
7,500 spiral-cut khaki woolen puttees for enlisted men.
50,000 yards of khaki cloth.

Bids must be accompanied by samples.

Time for delivery to be stated in proposal and to be considered in awarding contract.

Samples may be seen and blank proposals obtained at the office of the Property Officer. Bureau of Constabulary, Old Oriente Building, Manila.

As a guarantee of good faith each proposal must be accompanied by a certified check for ten per cent of bid. Letter of guarantee from bank will be accepted in place of check.

---

BUREAU OF PUBLIC WORKS, MANILA.—Reinforced Concrete Bridges.—Sealed proposals plainly marked "Proposals for Abucay, Tapulao and Hermosa Bridges," will be received at this office or at the office of the Provincial Treasurer, Balanga, Bataan, P. I., until 11 a. m., November 6th, 1910, and then publicly opened for furnishing all material, labor and plant and constructing complete, three reinforced concrete girder bridges, consisting of three 5.5 meter spans on E. C. Pile bents; two 7.5 meter spans on R. C. Pile bents; and one 8 meter span, located in the Province of Bataan and known as the Abucay, Tapulac and Hermosa bridges respectively, in the manner and on the conditions set forth in the form of proposals, plans and specifications, copies of which with other information may be obtained at either of the above-mentioned offices.

---

CEBU WATERWORKS.—Sealed bids will be received by the Director of Public Works until 11:00 a. m., November 15, 1910, and thereupon opened, for the furnishing of material for and the construction of Osmeña Water Works System for the Municipality of Cebu, Cebu, Philippine Islands.

The proposed works will consist of a circular reinforced concrete dam with intake appurtenances and value chamber; a concrete spillway; a 4,000,000 gallon reservoir in excavation; a 14" and 16" main pipe line six and a half kilometers long; a distribution system 4" to 14" diameter pipe twenty one (21) kilometer long, and the necessary gates, valves, valve boxes, fire hydrants, and appurtenances.

Specifications, general plans, and blank forms of proposal may be obtained at the office of the Director of Public Works, Manila, P. I., and from the office of the District Engineer, Cebu, P. I.

Each proposal must be accompanied by a certified check for 10% of the amount of the bid drawn by the bidder on a local bank and made payable to the Insular Treasurer as a guaranty that the bidder, if awarded the contract, will, after due notification, promptly enter into contract and furnish acceptable bond in the sum of twenty (20) per cent or a certified check for ten (10) per cent of the sum total of the contract price for the faithful performance of the work.

The right is reserved to reject any and all bids or waive informalities.

---

REINFORCED CONCRETE HOSPITAL.—Sealed proposals, in triplicate, subject to the usual conditions, for the construction of Two Concrete Officers Quarters and a Concrete Hospital Ward at Fort William McKinley, P. I., will be received here until 11:00 a. m., October 31st, 1910, and then publicly opened.

---

SALE OF HULL.—Sealed proposals, in duplicate, will be received at the Office of the Chief Quartermaster, Department of Mindanao, Zamboanga, P. I., until 3:00 p. m. December 7th, 1910, and then opened in the presence of attending bidders for the Hull of the Quartermaster Launch "Atlanta." Proposals must be accompanied by Certified Check, payable to the order of the Chief Quartermaster, Department of Mindanao, in the sum of ten (10%) per cent of the amount of bid. Information furnished upon application at this office. F. G. Hodgson, Assistant Quartermaster General, U. S. Army.

---

BUREAU OF SUPPLY, MANILA, P. I.—Hay and Oats.—Sealed proposals in triplicate will be received at this office up to 11 a. m. November 10th, 1910, when they will be opened in the presence of the attending bidders, for furnishing and delivering hay and oats.

---

SCHOOL SUPPLIES.—Sealed proposals in triplicate will be received at this office up to 11 a. m. November 25, 1910, when they will be opened in the presence of the attending bidders, for furnishing and delivering school supplies.

Proper forms and specifications may be had on application to this office.

---

BUREAU OF PHILIPPINE CONSTABULARY.—Shoes.—Sealed proposals in triplicate, subject to the usual conditions, will be received at the office of the Chief Supply Officer, Bureau of Constabulary, Old Oriente Building, Manila, until ten a. m., February 17, 1911, and then opened in the presence of attending bidders, for furnishing the Bureau of Constabulary

10,000 pairs of shoes.

Bids must be accompanied by samples.

Time for delivery to be stated in proposal and to be considered in awarding contract.

Samples may be seen and blank proposals obtained at the office of the Property Officer, Bureau of Constabulary, Old Oriente Building, Manila.

As a guarantee of good faith each proposal must be accompanied by a certified check for ten per cent of bid. Letter of guarantee from bank will be accepted in place of check.

---

PUTTEES.—Sealed proposals in triplicate, subject to the usual conditions, will be received at the office of the Chief Supply Officer, Bureau of Constabulary, until ten a. m., January 11, 1911, and then opened in the presence of attending bidders, for furnishing the Bureau of Constabulary.

1,000 pairs of puttees, woolen, spiral, for officers.

Bids must be accompanied by samples.

Time for delivery to be stated on proposal and to be considered in awarding contract.

Samples may be seen and blank proposals obtained at the office of the Property Officer, Bureau of Constabulary, Old Oriente Building.

As a guarantee of good faith each proposal will be accompanied by a certified check for ten per cent of bid. Letter of guarantee from bank will be accepted in place of check.

# FAR EASTERN RAILWAY NEWS

The Peking-Hankow Railway Loan.—It will be remembered that a loan for £5,000,000 was floated in 1908 for the redemption of this line and recently the announcement was made from Peking that the net earnings during the twenty months since the Government took it over amounted to Tls. 3,640,000. Now comes the report that a further loan of £450,000 has been issued, the proceeds of which will be utilized for repairing the line and adding new equipment. It is pointed out by several newspapers that the net profits are far from an adequate return on capital invested and that the necessity for the further loan to maintain the line in satisfactory condition reflects discredit on the system of operation in vogue which does not provide for proper upkeep within the earning capacity of the line. No official explanation of the conditions that made the loan necessary has been made public.

---

Japan's Railway Development.—It is the purpose of the Railway Bureau to supersede the narrow gauge by the standard as rapidly as possible, but it will grant permission for the construction of the smaller gauge by private corporations for the present.

A statue is to be erected in honor of the late Viscount Katsui Inouye who, as Director General of Government Railways, was identified with the rapid growth of intercommunication in the empire.

Workshops covering an area of 3,000,000 square feet are proposed by the Railway Bureau and will be located at a point near Tokyo. The present shops at Shimbashi will be included in this plant, and it is expected they will be opened about the beginning of 1913 These shops will turn out cars, equipment of all kinds and do general repair work.

Recent inspection by the Railway Bureau developed serious damage to railway ties on the different lines occasioned by the destructive work of white ants. An effort is being made to secure a preventative to be applied to all new timber used for this purpose.

---

Charters were granted last month for the construction of two light railways, one seven miles in length connecting Yoshina and Oyodo to cost 200,000 yen and the other about the same length joining Fukuyama and Tomonosu.

---

China's Projected Railways.—Mr. W. P. Ker, H. B. M. Attaché at Peking, gives the following list of projected lines with approximate mileage:

*Kirin—Changchun* (*Kuanchengtzu*) (*Chi-Chang*) *Railway*.—This line, the surveys for which are completed, will be 80 miles long; construction was to commence in the spring of this year.

*Kirin—Hunchun Railway*.—This line will be 240 miles long, and is to be undertaken on the completion of the Kirin—Changchun line.

*Chinchowfu—Aigun Railway*.—The preliminary agreement for this railway was signed in January, 1910, for American loan and British construction; the length of the line will be 750 miles.

*Kalgan—Suiyuan* (*Chang Sui*) *Railway*.—Preliminary surveys have begun on this line, which will be 180 miles in length, and the route will probably be *via* Tatungfu. Trains are expected to run as far as Tienchen (Shansi), a distance of 50 miles, in the spring of 1912, and an extension is intended later to Urga and Kiakhta.

*Chengtingfu—Tehchow Railway* (110 miles).—This line will connect the Peking—Hankow and Tientsin—Pukow railways.

*Chefoo—Weihsien Railway* (170 miles).—This line will connect Chefoo with the Shantung Railway. Progress is delayed for the want of funds.

*Tatungfu—Puchowfu* (*T'ung-P'u*) *Railway* (450 miles).—This railway will connect the north and centre of Shansi province with the Shensi Railway at Tungkwan, south of Puchowfu (see below). Only the construction of the section from Taiyuan to Pingyaohsien (60 miles) appears to be in immediate contemplation.

*Tungkwan—Honanfu* (*Hsi T'ung*) *Railway* (730 miles). This line was surveyed in 1909.

*Sianfu—Iungkwan* (*Lo-I'ung*) *Railway*. (85 miles).—This line was surveyed in 1909.

*Sianfu—Lanchowfu Railway* (80 miles).—This line was noted in the programme of the Board of Communications as to be surveyed in 1911, but the project is still somewhat indefinite.

*Lanchowfu—Ilifu Railway* (1,250 miles).—No definite arrangements have been made.

*Kaifeng—Suchowfu Railway* (175 miles).—This line was surveyed in 1909.

*Suchowfu—Tsingkiangpu* (*Ching-Hsu*) *Railway* (120 miles).—The construction of this line has been begun from Tsingkiangpu; it is intended to be completed in 1911.

*Tringkiangpu—Haichow* (*Ching-Hai*) *Railway* (70 miles).—This last section is intended to provide an outlet to the sea for the great trunk line from west to east, which will be formed by the execution of projects 8, 9, 12 and 13 above noted, in addition to the existing line from Honanfu to Kaifeng.

*Tsingkiangpu—Kwacho* (*on the Yangtse opposite Chinkiang Railway* (more than 100 miles).

*Sinyangchow—Fengyang or Pukow Railway* (270 miles).

*Chaochowfu or Swatow via Waichow to Shek-lung to Shunchun Railway* (200 miles).—These are alternative projects for connecting Swatow with the Canton district and the Canton—Kowloon Railway.

*Macao—Fatshan Railway* (*on the Canton—Samshui line*) (75 miles).—A concession for this line was granted to a Portuguese syndicate in 1902.

*Kweilin—Chuanchow* (*Kwangsi*) *Railway* (80 miles).—Preliminary surveys were made for this railway in 1909, but owing to lack of funds construction has not begun.

*Langson—Lungchow Railway* (46 miles).—This is the proposed French extension, metre gauge, of the Hanoi—Langson line. It is proposed to continue this line to Nanning (150 miles.)

*Yunnanfu—Szechuan Railway* (450 miles).—To Suifu or Luchow. Two American engineers were engaged by the Viceroy of Yunnan to survey this line in 1909.

*Bhamo—Tengyueh* (*Tien-Mien*) *Railway* (123 miles).—Preliminary surveys have been completed; the line will be of 2 ft. 6 in. or metre gauge.

---

Siamese Royal State Railway.—The following excerpts from the report for 1909-10 are of interest:

Of all events during the year under report the most noteworthy were the inauguration of the sections Ban Dara-Utaradit-Pang Ton Pung and Ban Dara-Sawankaloke, as also the opening of the River Line, connecting Bangkok Terminus with the Menam river at Chong Non See.

Length of Line.

The new sections:

| | |
|---|---|
| Ban Dara-Utaradit | 28.2 Km. |
| Utaradit-Pang Ton Phung | 24.3 Km. |
| Ban Dara-Sawankaloke | 28.7 Km. |
| Totalling | 81.2 Km. |

were opened for traffic on 15th August, 1909, bringing the total length open to 926 Km., i. e. 774.6 of standard gauge (1.435) and 151.4 of meter gauge 926 meters total.

Average length during the year is 895.7 (803.3), increase against previous year 11.50%, leaving only 19 Km. of standard gauge (Pang Ton Phung to Meh Puak) to be completed and probably opened to traffic during the year 129.

The financial result of the working of the State Railways for the year 128 was a net gain to the state of Ticals 2,310,792 after meeting the working expenses and contribution to renovation fund. The gross receipts were Tcs. 4,303,962, an increase of Tcs. 114,978. The working expenses were Tcs. 1,706,202, an increase of Tcs. 48,265.

Though the average length of the line shows an increase of 11.50%, the gross-receipts comparatively have an increase only of 2.74%, which falling off can mostly be accounted for the sparseness of population in the newly opened districts.

Decrease in the percentage of expenditure to gross receipts is chiefly due to reduction of rates for daily labor. Increases are accountable partly to falling off of traffic receipts and partly to increase of the staff.

*Passengers*.—There were decreases totalling 165,554 in the number of tickets sold on the Sections Bangkok to Ban Phaji, Ban Phaji to Korat, Bangkok to Petriu, and Bangkok Noi to Petchaburi. The decrease in receipts on these sections amounted to Tcs. 103,067. There were increases on all the other sections totalling 163, 376 in the number of tickets sold, and Tcs. 131,545 in receipts.

The increases on sections Ban Phaji to Paknampoh, Paknampoh to Pitsanuloke and Pitsanuloke to Bandara are evidently the signs of gradual development of traffic, and with regard to the increases on sections Ban Dara to Utaradit, Utaradit to Pang Ton Phung, and Ban Dara to Sawankaloke, these lines were not opened to traffic in 127.

The falling off on sections Bangkok to Ban Phaji, Ban Phaji to Korat, and Bangkok Noi to Petchaburi is probably accountable to depression of trade and general conditions of the business in the year under report, while the remarkable decrease on the Petriu line, attributes partly to the reason of competitive struggle of motor-boat traffic, in the canals to the north of the line, tapping thickly populated districts.

*Other Coaching Traffic*.—Luggage brought in Tcs. 2,079 more than in 127, and special trains and sundries Tcs. 66,989 less. The difference in the last item is due to the extraordinary military movements in 127.

*Goods and Live Stock*.—There were carried by the railways last year 106,350 tons of Paddy (an increase of 33,999 tons), 47,792 tons of Stone, 17,571 tons of Timber, 15,726 tons of Merchandise, 4,614 tons of Firewood, 4,476 tons of Salt, 2,976 tons of Kerosine Oil, 2,293 tons of Fish, 1,990 tons of Hides and Horns, 1,802 tons of rice, 1,537 tons of Iron 1,427 tons of cloth and clothes 1,019 tons of Liquor, 1,002 tons of Lime, 468 tons of Stick Lac and Gam Benjamin, 818 tons of Cement, 342 tons of Cotton, 225 tons of Coins, etc., etc. Including 3,921 tons of railway construction goods the total was 250,471 tons, and the receipts Tcs. 1,326,010. In addition there were carried 715 heads of horses, 4,286 cattle and 106,844 pigs.

Comparing the results of goods traffic (without regard to railway construction goods) with those of the previous year, an increase of 54,466 tons with an increase in receipts of Ticals 24,0643 is to be noted. Whereas the increase in tons amounts to 28 per cent the increase in receipts shows onlp 22 per cent due to the reduction in rates, which were enforced on and after the 15th January, 1910. From the above percentage of increase, paddy alone takes 17 per cent from the quantity and 13 per cent from the receipts.

Also for the goods rates the basis of sliding scale has been adopted and the reduction varies between 10 to 20 and more per cent, not throughout, but according to seasonal and economical conditions of the country. The new rates bid fair to be a success so far that certain commodities are transported now in much larger quantity than formerly and the receipts in goods traffic since the introduction of the new rates (7 months since) have increased by 5½ per cent in spite of the reduction.

*New Works*.—During the year under report 748,855 Ticals were expended under this head The River line was completed.

*Extension, station yard Bangkok.*—The new station hall near Hua Lampong bridge will be erected in year 129. New Workshop has already been in occupation affording extensive facilities all round. Vacuum Brakes have been installed on most of the carriages offering better security to traffic. Though not directly pertaining to this head, I may be allowed to mention that introduction of bogie carriages on long journeys on standard gauge lines has been looked upon as an improvement as they afford more comfortable traveling.

*Riverline and Riverstation.*—The steady increase of the goods traffic of the Korat and Northern lines made it advisable to provide in time for a new outlet of the traffic at Bangkok, the Klong Kutmai hardly affording sufficient place in the busy time of the year. It was therefore decided to provide for a new goods-station at the Menam Chow Phya some miles down the stream near Klong Thoy. A Royal Proclamation was issued on the 11th December 1905 granting to the Royal Railway Department the right of expropriating the land required for the construction of a branch line from Mackasan to the River and for a goods-station stretching along the river to an extent of 1100 m. and a width of 300 m. Works were commenced immediately after the Royal Proclamation having been issued and on the 15th February, 1910 the station was opened to traffic.

*Expropriation.*—The whole land expropriated with an area of 150806 square wahs was purchased for Tcs. 221,431 = Tcs. 1.46 per square wah. Special difficulty was met with in acquiring the land at riversite and lengthy arbitrations had to be gone through. An old Wat had to be shifted at an expense of 16,548 Tcs.

*Earthwork.*—The total of earthwork amounts to 67607 cbm for the branchline and 146106 cbm for the station = 214413 cbm in all at a cost of 164799 = Tcs. 0.76 per cbm. The earthwork includes the excavation of a klong on station ground of 1200 m. length 30 m. topwidth and 4.5 m. depth at high flood.

*Bridges.*—The branchline to the Riverstation is crossing 3 navigable klongs. Total cost of bridges amounts to 52040 Tcs.

*Permanent way.*—The permanent way is of the type of the Korat and Northern lines. Sleepers were cut in the Korat district and the ballast brought from the Railway quarries at Pak-Preo and Chongkeh. Including the Station-yard 10.2 km. tracks have been laid.

*Stationyard.*—Both the banks of the klong above referred to have been provided with double tracks. Besides a crane of 10 tons capacity and a landing for ordinary boats have been erected. The station-building together with office and quarters for the station-master and a shelter for customers has been constructed of Mai Teng Rang wood and covered with corrugated iron.

*Extraordinary works.*—At km. 3.7 the line is crossing the Paknam Railway. This necessitated preventive measures against collisions by establishing signal installation which was specially designed for this purpose. Besides the Paknam Railway had to be raised over 1 m. at this spot.

*Total cost.*—The total cost of the construction of the Riverline and Riverstation amounts to 614150 Tcs.

*Prospects.*—Though the traffic on the new station for the present is only slight it can hardly be doubted that in the course of time the station will play an important role in transhipment of goods between Railway and sea going vessels For this reason the station-ground has been laid out to meet all future eventualities. This seemed the more advisable as the steady increase of landprices along the river would have made it at later times difficult if not prohibitive to extend the station.

The place has been chosen on the deep water side of the river to facilitate later on the construction of wharves for seavessels. On the other hand the strong current of the Menam on this side affects heavily the bank, which is being gradually washed away and costly protections of the bank have therefore to be faced in future.

---

Mr. Ker believes that in spite of all obstacles the program of railway building in China will be carried out.

East Coast Railway Opened.—The new section from Bahru Bahau to Triang River, covering a distance of 32 miles, was announced ready for opening the first of the month. This branch taps Pahang at Triang. It is expected that this line will reach Semantan by the Spring of next year.

---

South Manchuria Railway.—This company has completed arrangements to increase its service to four trains weekly to and from Dairen to Changchun. It is also announced that the South Manchuria and the Kirin-Changchun line have arranged a working agreement at Kuanchangtze.

---

Supply of Indian Railway Material.—According to *Railways*, Messrs. J. Brown and Company, Limited, Sheffield, have supplied a quantity of helical laminated and volute springs for rolling-stock to the Assam-Bengal Railway, and the Patent Foundry and Axlebox Company, Limited, axleboxes. Messrs. Brown Bayley's Steel Works, Limited, Sheffield, had an order from this Railway for the supply of steel tyres for wagon stock; and the Isca Foundry and Engineering Company, Limited, Newport, Monmouthshire, a large contract for the supply of points and crossings. Messrs. Taylor Brothers and Company, Limited, Sheffield, were manufacturing 20 steel axles and 10 steel tyres for locomotive engines for the East Indian Railway and Messrs. Cammell, Laird and Company, Limited, Victoria Street, London, Proprietors of the Cyclops Steel and Ironworks at Sheffield, have a large order in hand for the supply of helical and volute springs for rolling-stock. The Patent Axlebox and Foundry Company, Limited, have an order for the supply of 300 axleboxes to this Railway. The roofing materials ordered from England for the circular engine shed at the Madura junction station, South Indian Railway, is under supply by Messrs. Braithwaite and Kirk, Limited, Structural Engineers. A pillar water crane is under supply by Messrs. Blakeborough and Son, Limited, and a turntable for locomotive engines by the Horschay Company, Limited, for the same Railway. Messrs. J. Stone and Company, Limited, London, are supplying 26 of their dynamos and 26 switches for the electric lighting of passenger trains on the South India Railway together with 875 "Tonum" cells accumulators. The Wardle Engineering Company, Limited, also had an order from this railway for the supply of electric light materials; and Messrs. Seimens Brothers and Company's Dynamo Works, Ltd., Stafford and Woolwich, for electric lighting cables. The Vulcan Iron Works, Limited, Engineers, etc., Calcutta have the order of the East Indian Railway Company for the supply of the necessary steel and woodwork required for 14 spans of footpaths, each 65 feet 5 inches long, together with brackets, runners, plank, handrailings, etc. for the 60 feet span girder bridges which are under construction on the Hooghly Katwa Branch across the Saraswati, Kunti and Kharri rivers. Messrs. Burn and Company, Limited, Howrah have the order of the East Indian Railway for the supply of the galvanized iron and steel work required for the roofing over the first floor of the new Junior Hill School ("Oak Grove at Mussoorie; also for a portion of the ground floor, including trusses, purlins, gutters, wind ties. wire netting, etc. Messrs. Heatly and Greshham, Limited, had the order of the East Indian Railway for the supply of a steam self-propelling Crane with double chain, to lift 5 tons at a maximum radius of not less than 15 feet, which was urgently required by their Engineering Department. The Leeds Forge Company, Limited, England, are manufacturing and will shortly ship 75 broad-gauge steel wagons for the transport of Coal for the Bengal-Nagpur Railway. Messrs. Stable Ford and Company, Limited, are supplying ten goods brakevans for the same Railway 2 feet 6 inch gauge extensions and the Gloucester Railway Carriage and Wagon Company, Limited, 14 broad-gauge railway wagons. The Consolidated Brake and Engineering Company, Limited, London, E. C., have supplied 200 sets of vacuum brake gear for rolling stock to the Burma Railways. Messrs. Willford and Company, Limited, have an order from the same railway for the supply of 500 helical springs for rolling-stock. Messrs. The British Insulated and Helsby Cables, Limited, Prescot, Lancashire, had a large contract for the supply of telegraph materials to this line. The Vulcan Foundry Company, Limited, locomotive manufacturers, have a large order in hand for the supply of "spares" or duplicate parts for locomotive engines to the East Indian Railway. Messrs. Taylor Brothers and Company, Limited, Sheffield, are supplying 60 steel tyres and 16 steel crank axles for locomotive engines to this Railway and Messrs. Owen and Dyson, Limited, 60 pairs of wheels and axles for vehicle stock and 200 spare wheel centres. Messrs. Greenwood and Battley, Leeds, are supplying the Loco and Carriage and Wagon Department of the South Indian Railway with a bolt and rivet forging machine. The Horsley Company, Limited, Tipton, Staffordshire, have the order of the East Indian Railway for the supply of 9 spans of steel girders for the Kiul bridge and 4 spans for the Hulluhur bridge, which are being renewed. Messrs. Gillanders, Arbuthnot and Company have an order for the supply of 2,000 tons of best selected Burma teak squares, first quality, to the North-Western State Railway. The Tees Side Bridge and Engineering Works, Limited, have the order of the East Indian Railway for the supply of the girders required for the second track over Tonse Bridge near Meja Road Station.

---

Singapore Government Railway.—The following excerpts are taken from the report of the Acting Manager and Chief Engineer, Mr. W. J. Haskins:

The result of the year's working shows an increase in the gross revenue of $38,845.64, compared with the year 1908. There has been a steady increase in passenger traffic, 463,804 passengers being carried during the year, which is 26,382 more than during the year 1908.

2. The receipts on account of goods nearly doubled during the year.

3. The capital cost of the Railway up to 31st December, 1909, amounted to $4,565,-967.57. The net earnings for the year were $68,144.14 equal to a dividend of 1.49 per cent.

4. The total revenue amounted to $233,-792 34.

5. The working expenses during the year amounted to $165,648.20, as compared with $174,512.26 during 1908.

6. In July, 1909, through traffic with the Johore State and Federated Malay States Railways was commenced and the total amount earned on this account by this Railway up to 31st December, 1909, was $6,573.33.

7. *Waggon Ferry Johore Straits.*—This was opened to traffic on 24th December, 1909.

8. *Relaying.*—Six and three-quarter miles of permanent way were relaid with 80-lb. rails. Several low embankments were raised, nine level crossings and six girder bridges were also relaid.

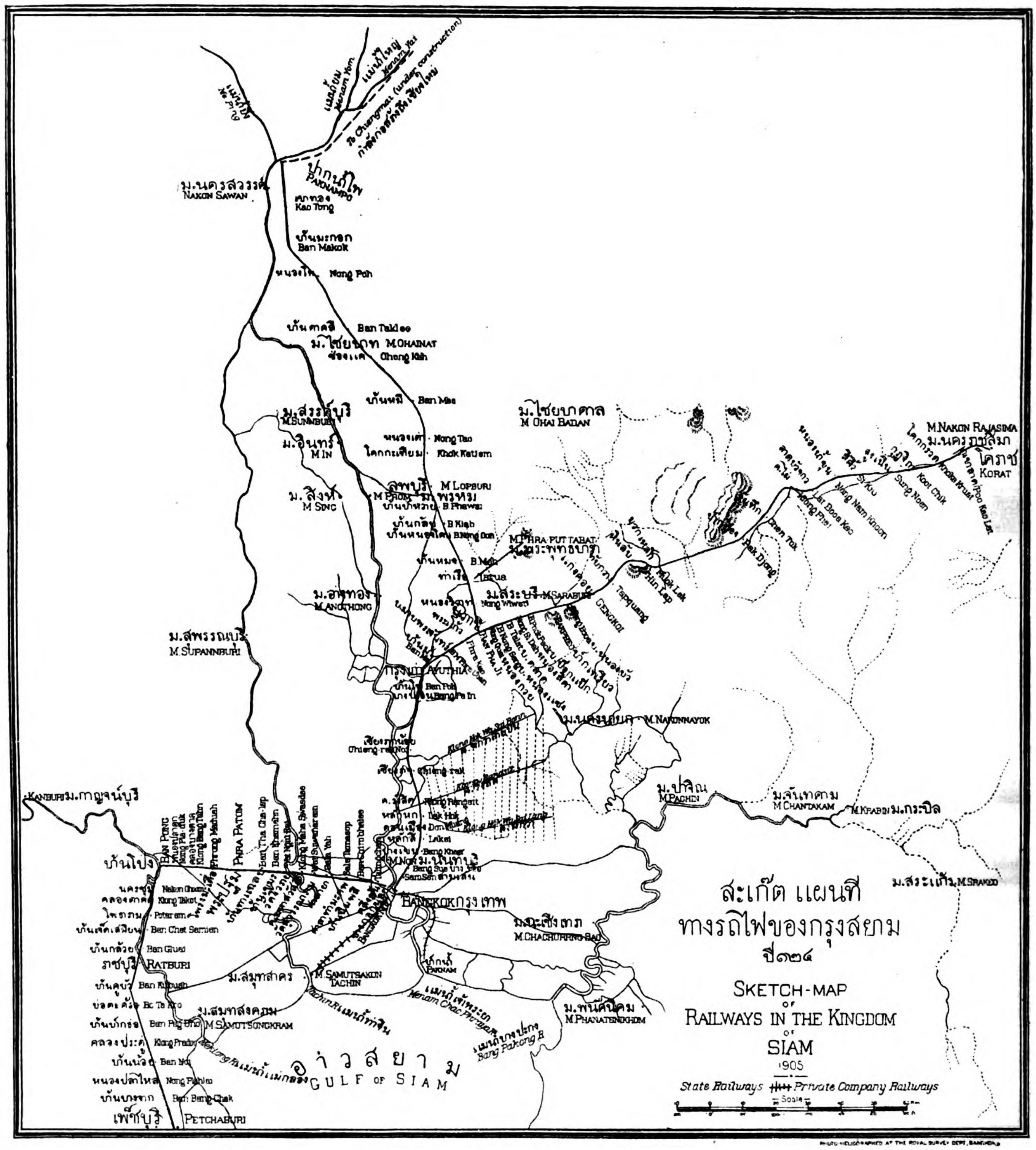
9. The alignment between the 13th and 14th mile was corrected by straightening the road and so eliminating a short curve.

10. *Engine and Carriage Sheds.*—All the necessary brick work on the engine shed was completed, and the stell roof principals supplied by the Crown Agents were erected. Fuel stage and water column were also erected and foundations for the carriage shed completed.

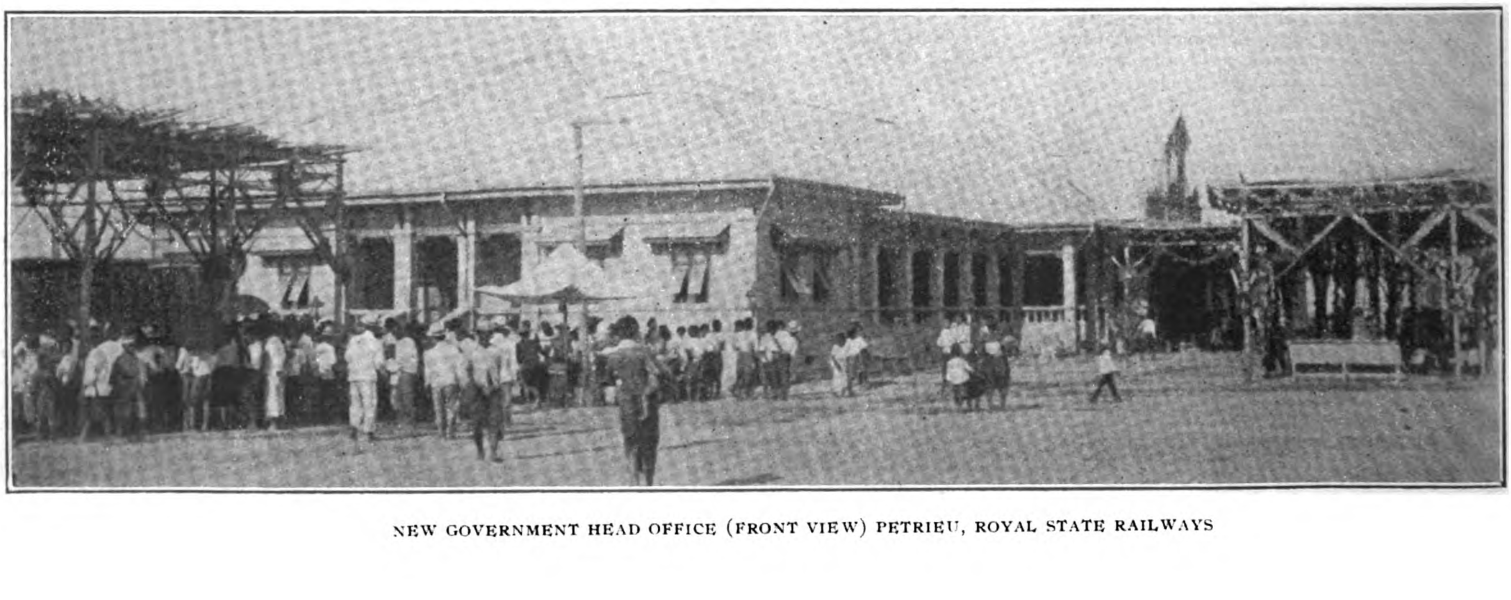
---

French Indo-Chine Railways.—The following is gathered from the report of the Minister for the Colonies:

The whole of the line from Laokai to Yunnansen, a distance of nearly 300 miles, was opened to traffic quite recently. The Haiphong line, of which it is an extension, showed last year an increase of about £30,000 in receipts, as compared with the returns of the year before. In the case of the line from Saigon to Khanh Hon and Lang Bian, the section from kilometre 132 Phanrang will be opened on July 1, 1911, and the section from Phanrang to Nhatrang at the end of that year. The section from Phanrang to Xomgon will also be completed at the end of next year. The earning of this system, which will ultimately comprise about 250 miles of railways, showed an increase of nearly £3,000 last year. The returns from Hanoi, Ninh Binh and Vanh coastal line showed a decrease of nearly




RAILWAY MAP OF SIAM



NEW GOVERNMENT HEAD OFFICE (FRONT VIEW) PETRIEU, ROYAL STATE RAILWAYS

# PHILIPPINE MINING NEWS

THE PARACALE CONSOLIDATED MINING CO.—The owners of approximately fifty placer and lode claims in the Mambulao and Paracale Districts have consolidated their interests and incorporated with a captial of ₱1,000,000 divided into 500,000 shares of ₱2 each. The owners receive 300,000 shares of the stock and have donated 100,000 shares from their holdings for promotion work. Of these 25,000 have been placed on the market at ₱.50 and have been largely subscribed.

Little is known of the lode properties as the work of development is only in the initial stages. Encouraging reports have been received from the placers, but the company is very conservative in its announcement.

Indeed, the main purpose of the consolidation is to make a thorough test of all the properties before proceeding to active development. The initial subscription of promotion stock at ₱.50 was most satisfactory and testing operations are already under way.

PERSONAL.—George I. Adams, formerly of the Philippine Mining Bureau, returned to Manila recently after concluding an examination of the Timor Oil Exploration Company.

General Manager Bridgeman, of the Philippine Exploration Company, is expected to return to the Philippines from New York by the end of the month.

Ex-Governor Whitmarsh of Baguio, one of the pioneer mining men of Benguet, sailed this month accompanied by his family to Europe.

Mr. M. A. Clarke, president of the Benguet Consolidated, also sailed this month for Europe.

THE MAJOR GROOP.—Development work on this property, situated in Benguet, preparatory to the installation of a three-stamp mill has been progressing rapidly.

THE BENGUET CONSOLIDATED.—This company has been sadly crippled as a result of the serious storm in the mountain region which carried off its well equipped cyanide plant. The mill has been engaged in cleaning up the dump and the results have averaged from 80 to 100 ounces monthly. We have been informed, however, that arrangements have been made for the installation of a new cyanide plant to be completed in about six months.

THE PHILIPPINE EXPLORATION CO.—The San Mauricio mine began operating twenty stamps, September 7, and ran irregularly up to the end of the month, making 18 days full time. The result was 130 ounces of gold from the plates. Besides this, twenty tons of concentrates running in value from $50 to $80, U. S. C., per ton were shipped to the Tacoma Smelting Company. The mill has been running steadily during the month and it is expected that the output will average about 200 ounces with from 75 to 100 tons of concentrates monthly. Another shipment of 75 tons of concentrates will be made on November 12.

The Exploration Company has a prospecting party engaged in active operations on the Robinson group.

GOVERNMENT CEMENT FACTORY.—The Washington correspondent of the Manila *Cablenews-American* states that the War Department is considering the installation of a large cement manufacturing plant in the Philippines. The Government imported 84,000 barrels of cement last year and it is believed that the investment would be warranted by a general saving in cost.

THE EAST BATAN COAL COMPANY.—This company has added two coal cutters to its equipment. They were installed early this month and will increase the output by 300 tons daily, each having a capacity of 150 tons of coal every 24 hours. They were secured from Messrs. Ingersoll Rand & Co. of New York City. Two additional machines are on the way.

HEADQUARTERS MINING CO.—This company expects to be in a position by March, 1911, to begin operations with its battery of ten stamps. The machinery and equipment, including a Ridgeway filter tube mill, etc., are now being installed. The development work is still progressing and by the date of the beginning of mill operation, sufficient ore will be in sight to keep the plant supplied continuously.

THE NUEVA ECIJA FIELD.—Active interest is reported in this region. The Cabu and the Rio Chica companies are busily engaged in prospecting and reports continue very favorable.

THE MANCAYAN COPPER.—The status of this property remains unchanged, but negotiations are being carried on with interested parties looking to further development.

THE BUA MINING CO.—The Secretary Treasurer's report for the six months ended June 30, 1910, shows a profit of $13,512.15 after writing off ₱5,000 to a fund against overdraft. The mill did not resume operations after the storm of October, 1909, until January and owing to floods was closed down May. The result was 1,600 tons crushed, 1,237.04 ounces recovered by amalgamation, valued at ₱35,609.33; 578.41 ounces cyanide recovery valued at ₱10,566.80 making a total value of ₱46,176.13.

"*Condition of Plant.* All the milling machinery is in good working condition, the fluming "however needs renewing. The cyanide plant "and all its connections, with the exception of "the sumps and zinc boxes destroyed in the "typhoon, is in the best possible state of preservation. The gravity and aerial tramlines are "in good condition and can be used in the construction of the new mill. When the mill "was finally shut down, the cyanide plant and "all machinery below the battery floor was dismantled and put high above any possible "flood levels. Sheds were erected over the "cyanide plant timbers to protect them from "the weather.

"*Milling.* Operations were started on the "1st January, 1910, and continued till the 2nd 'May last when the heavy rains made it impossible to continue crushing profitably any "longer. It was then considered advisable to "shut down the mill pending the decision of the "Directors as to the advisability of removing "all machinery to a suitable mill site."

Mr. P. Weedon, the Company's acting Manager, reports in part as follows:

"*Mining.* On the 1st January work was "resumed at the Gomok claim. No drifting "on reefs has been carried on at the top levels "as all work has been confined to stoping the "North and South reefs on these levels. The "average height stoped on the North reef is "45 feet. The average heights stoped on the "South reef is 35 feet; and distance on each reef "is 350 feet . The crosscut tunnel has been extended due South for a distance of 717 feet. "This is the crosscut mentioned in the last "report, the object of which was to cut the North "and South reefs at a depth of 100 feet below "the present working. At 515 feet from the "mouth of the crosscut the North reef was cut, "showing a body of ore 2½ feet wide and panning "about $8 free gold per ton. The reef at this "point is considerably larger and carries better "values than at the same vertical point above. "This is a splendid indication that the reef is "stronger and better as it dips into the more "settled country. From the point where the "crosscut met the North reef, a drive was put "in on the ore in an easterly direction for a distance of 80 feet, and then the lower crosscut "was connected by an upraise with the top "workings. This upraise follows the ore body "all the way and shows the height of ore between "the two levels to be 110 feet. The crosscut "tunnel is well timbered where necessary, but "ground through which the upraise passes was "considered sufficiently hard to stand without "timber. This was the condition of the mine "after the typhoon in May 1910, and all men "were discharged. Since the completion of the "upraise no work has been done in the mine."

---

£10,000, owing to the floods. Work on the projected line from Mytho to Kantho has not yet been begun.

THE MINDANAO MILITARY RAILWAY.—With the appointment of General Wood to the post of Chief of Staff, interest in the Overton-Keithly line which has been mooted for years is revived, and there are prospects of an appropriation being secured next session of congress. General Wood while governor of the Moro province was strongly in favor of the enterprise and now that he is in a position to secure a better hearing it is expected that the matter will receive more attention. The survey of the line covering a distance of 24 miles was made some years ago and will cost approximately $400,000. Besides serving to carry military stores and supplies economically this line would open up a large tract of fertile country.

TAOTAI JEME TIEN YU'S APPOINTMENT.—The most important news of the month is the acceptance by Taotai Jeme Tien Yu, the successful railway engineer who was responsible for the completion of the Peking-Kalgan line, of the position of Director General of the Canton-Hankow line. He will not proceed to this post until he has completed the plans for the construction of the proposed Szechuan-Tibet line. It appears that Taotai Jeme accepted the position only after he had been guaranteed that all the shares of the companies interested were paid up and the proceeds deposited in responsible banks; that he would have a free hand to direct the work and employ assistants and labor, and that he would not be subjected to any criticism until he had completed the line. It is understood that these terms were complied with. It is believed that this appointment solves all problems connected with this line. In some quarters it is intimated that his appointment will do away with the necessity of floating the proposed foreign loan.

THE CHEKIANG RAILWAY TROUBLE.—The dismissal of Director General Tang Shan-chien has served to create an unusual situation in which there is serious friction between the merchants and the Board of Communications. From reports, it is the purpose of the Board to take over control of the railway. The latter part of September a meeting of the shareholders was held at which it was decided:

(1) That Mr. Liu Cheng-lo be invited to be Director-General of the Chekiang Railway vice Mr. Tang Shau-chien.

(2) That the shareholders be pressed to pay up the calls on their shares.

(3) That the authorities be asked to announce whether or not they have abolished the people's right to elect directors of the companies under their management.

All efforts to secure the reinstatement of President Tang proved abortive and the general sentiment expressed by the shareholders denounced the Government for interfering in the management of the line. However, the Peking authorities have been firm. It is reported that the Provincial Assembly suspended its session for the reason that the governor refused to have the subject of again addressing the throne reopened.

JAPANESE RAILWAY CHIEF HONORED.—The Czar has conferred the Order of St. Anne upon Vice-President Hirai of the Japanese Railway Board.

THE CENTRAL RAILWAY LOAN.—Conflicting reports are received as to the progress made towards the consummation of this agreement, but it would appear that the conclusion of the agreement is as far away as ever. A dispatch from Peking, October 4th, was to the effect that the representatives of the four foreign Syndicates and the Yuch'uanpu have held a conference in regard to the Canton-Hankow Railway Loan. H. E. Sheng Kungpao, Vice-President of the Ministry of Posts and Communications, criticized the terms offered and would not agree to take up the loan, urging the promise to the gentry not to employ foreign capital.

Previously a Peking dispatch stated that the Acting President had advised the foreign representatives that the matter would not be taken up until President Tang Shou-yi's return. So far no new information is available.

# FAR EASTERN ENGINEERING, CONSTRUCTION, COMMERCIAL AND FINANCIAL NEWS

## ELECTRIC RAILWAYS, LIGHT, POWER, TELEGRAPHS, TELEPHONES, AIRSHIPS, AUTOMOBILES, ETC.

JAPAN PURCHASES WRIGHT AEROPLANES.—An agreement has been entered into between the Japanese Government and the German manufacturers of the Wright Machine for the purchase of aeroplanes for the Japanese Army and a commission of 36 Japanese officers are to be instructed in the art of flying by the German military aviator, Commander Engelhardt.

TRAMWAY TO JAPANESE HEALTH RESORT.—The Hanshin Electric Railway Company has revived the proposal to build a tramway to connect Kobe with Rokkosan, a distance of twelve miles. It is understood that a cable car service with electric power will be installed if present plans mature. The cost of installation is estimated at yen 5,000,000.

TELEPHONES IN MANCHURIA.—The *Manchuria Daily News*, reviewing the telephone exchanges in Manchuria, places the number of telephones operated by the Kwangtung government at 3,166 and which includes service in the cities of Dairen, Port Arthur, Liushutun, Chinchow, Tashihchiao, Liaoyang, Mukden, Tiehling, Kungchuling, Changchun, Antung, Hsinmintun and Fushun. Of these Dairen heads the list with 1,040. Besides the above there are 300 phones operated by the Yingkow Hydro-Electricity Co. and 300 more by the South Manchuria Railway Company, besides those operated by the Penchihu Colliery.

KUALA LUMPUR ELECTRIC LIGHT.—With the expenditure of $50,000 last year the capital investment in plant amounted to appoximately $1,000,000 from which a net revenue of only $20,000 was derived or about 1.8% on capital.

THE SIAM ELECTRICITY COMPANY, LTD.—The net earnings for the half year amounted to Ticals 304,503, an increase of Ticals 100,000 over the corresponding term, 1909. During the year there was a marked reduction in expenditure due to modern improvements added to the equipment. A dividend of 6% was paid for the term absorbing Ticals 196,250 and the balance was carried forward.

THE HILLS RAILWAY.—Plans and estimates for the construction of this line have been prepared for the construction of a line up Penang Hill according to the Resident Councillor's report. The cost is placed at $214,000 and with the sanction of the Secretary of State for the Colonies active operations will begin. It will be a cable line operated by electricity provided by the municipal station. The construction of this line will secure transportation to the cool hills where the residents will build their homes

PENANG'S NEW MOTOR FIRE ENGINE.—The municipality recently tested out its new motor fire engine purchased from Messrs. Dennis Bros. It is capable of a speed of 35 miles an hour and is equipped with a centrifugal pump that can throw water to a height of 126 feet.

THE JAPANESE AIRSHIP.—The Yamada airship was tested out last month at Osaki. The machine was attached to a rope during the flights, but the ascent and descent were successfully accomplished.

AMERICAN ARMY DIRIGIBLES.—The American military authorities have decided to add the dirigible airship to the equipment of the Signal Corps. An aerial corps is proposed as an auxiliary to the Coast Artillery.

WIRELESS ON U. S. INTERISLAND TRANSPORTS.—As a result of the accident to the Warren in Southern Philippine waters, the federal authorities have decided to equip all the transports in this service with wireless.

MANILA AUTOMOBILE TRADE.—The official police registry of automobiles owned in Manila show 339 registered by livery stables and private owners and 17 by dealers as demonstrating cars. During the year there has been a large increase of American cars sold in the islands and prospect of greater activity next year. The different bureaus of the government are making purchases and their use has been found a measure of economy in the cost of transportation. An automobile association has been organized and one race meet held.

GAS PLANT FOR MANILA.—There are two bidders for a franchise to install a gas plant in Manila. One of the bidders represents German capital and has been in the field for some time. A site has been selected and approved. The other bidder is Mr. Henry M. Jones, a local capitalist and president of the American Hardware and Plumbing Company. The matter will be referred to the legislature.

BRITISH CONTRACT FOR GAS PLANT.—The Tokyo Gas Company has placed a contract with a Bedford firm for the installation of a plant to cost £150,000.

THE SIAMESE TRAMWAY COMPANY, LTD.—The gross receipts for the half year amounted to Ticals 208,410.08 and the expenditure including track rent interest, etc., amounted to Ticals 168,065.72 leaving a net profit of Ticals 40,344. Of this Ticals 25,000 were written off for depreciation and the balance carried forward.

THE CHINGKIANG ELECTRIC LIGHT COMPANY—A private Chinese company with a capital of Tls. 300,000 was recently organized to install and operate an electric light plant in this city. Messrs. Arnhold, Karberg & Company who had the contract for the installation turned it over complete to the company last month. Commenting on this work, which was under the direction of Mr. Nettle, electrical engineer representing the firm, the correspondent of the *North China Daily News* says that it is one of the most complete and up-to-date plants to be found in the Yangtze valley and will remain for many years a splendid advertisement of the firm of Messrs. Arnhold, Karberg & Co.

THE FRENCH TRAMWAYS OF SHANGHAI.—The profit for the year amounted to £3,916 but no dividend was declared.

PHILIPPINE CABLES.—Iloilo is to be made the central relay station for the southern islands to be connected by a cable from Calibo in Capiz to Romblon and another to connect Camp Jossman with Pulpandan in Negros. These connections will place Iloilo in direct communication with Manila in the north and Malabang in the south.

TOKYO ELEVATED RAILWAY.—The prospect for the construction of the proposed system in Tokyo at an early date is not very bright. There is great opposition to the project by the people and even the promoters agree that it will be years before the plans may be carried out successfully. The proposed lines would run at right angles to each other one connecting Shinagawa and Asakusa, along the sea coast, and the other connecting Shinjuku and Monjo. The ward assemblies declare against the project for the reason that it would injure the view, obstruct the sunlight, create an unendurable dni and expose the householders to loss of privacy and great danger, according to the *Japan Times*.

DAMAGE TO JAPANESE ELECTRIC WORKS BY FLOODS.—The Tokyo Electric Light Company was affected by a reduction of its working capacity by a reduction from 13,000 kilowatts to 9,000 daily owing to obstructions in the water supply of the power stations. The Takasaki Water Power Generating Company had its power station, water reservoir, condensing plan badly damaged while parts were washed away. The waterway was practically buried in earth and sand carried into it by the force of the flood. The Seimo Electric Company had its supply and power station utterly destroyed but will soon resume operation. The *Japan Times* directs attention to the values of the experience during the recent floods to new companies engaging in like enterprises and the necessity of constructing more substantial reservoirs.

ELECTRICAL ENTERPRISE IN KWANSAI.—The following companies have been organized since the first of the year, according to an Osaka report:

The Hankai Electric Railway Co. (capital, 3,000,000 yen); the Hiroshima Electric Railway Co. (capital 3,000,000 yen); the Nara Electric Railway Co. (capital 3,000,000 yen); Okinawa Sugar Manufacturing Co. (capital, 2,000,000 yen); the Kita Osaka Electric Railway Co. (capital, 2,000,000 yen); the Kyoto New Electric Light Co. (capital, 2,000,000 yen); the Raisei Electric Railway Co. (capital, 1,000,000 yen); and the Nara Gas Co. (capital, 500,000 yen); their total capital aggregating to 16,500,000 yen.

F. M. S. MOTOR SERVICE.—The F. M. S. Railways have suspended their motor service between Seremban and Kuala Pilah, an arrangement having been entered into with a Chinese contractor to provide the connections.

MANILA AIRSHIP.—A monoplane designed by Eugene Girard of the Mitchell-Brush Automobile Garage is now almost perfected and will be given a trial this month.

The machine is a combination of the Bleriot and Demoiselle of Santos Dumont. Its engines are 36 horse power, with four cylinders. The propeller is made of native wood and measures 2.10 meters in full length, and will make 1,400 revolutions a minute. The tail consists of three different parts and are all kept moving continuously when the machine is in action.

The body and tail of the machine are made of guijo, very flexible and resistant and the total length of the apparatus is a trifle more than ten meters. Its weight when complete with one average man will be 375 kilos.

The wings of the machine are over four meters long, are made of a double cover of canvass and sustained by piano steel wires made tight by the use of aluminum turned buckles.

## PUBLIC WORKS, DOCKS, WHARVES, BUILDINGS, ETC.

THE PANAMA FORTIFICATIONS.—The estimates submitted for the completion of the defenses for the canal before 1915, involve an outlay of $14,000,000. Of this it has been recommended that $4,000,000 be made immediately available. The items included in the above estimate follow:

| | |
|---|---|
| Purchase and reclamation of sites | $1,125,000 |
| Emplacements | 6,027,000 |
| Guns and carriages | 2,324,000 |
| Ammunition | 1,328,288 |
| Power plans | 138,000 |
| Searchlights | 244,800 |
| Fire control | 370,755 |
| Submarine mine defenses | 658,360 |
| Barracks and quarters | 1,834,000 |
| Total | 114,104,202 |

THE LUNETA EXTENSION PLANS COMPLETED.—The Municipal Board of Manila has approved plans for the improvement of the new made ground reclaimed by the city on which the Army and Navy and the Elks Clubs and the New Hotel are being built. The plans include parking, etc.

FINAL PAYMENT ON WATER SUPPLY CONTRACT.—The Manila Municipal Board has authorized the payment of ₱80,445 in full to Messrs. Matson, Lord and Belser Company for work done by the company on construction of the dam.

SINGAPORE SEWAGE SYSTEM.—A system of sewage for the city of Singapore has been recommended by Mr. Taylor for adoption by the Municipality, which will involve an outlay of £538,000 and an annual expenditure for maintenance of £10,000. The plans are most complete and would provide ample facilities for carrying off all the sewage of the city and place it in a satisfactory sanitary condition. The following are the items of cost as submitted:

| | |
|---|---|
| Main outfall sewer ........ .... | £ 85,000 |
| Branch sewers as shown on plan.... | 70,000 |
| Further branch sewers that may be found necessary................ | 20,000 |
| Syphons under Kalang and Singapore rivers..................... | 7,000 |
| Ventilation.......................... | 5,000 |
| Flushing tanks.................... | 2,000 |
| Intercepting pits.................. | 6,000 |
| No. 6 night soil depots............ | 24,000 |
| Engine house, foundations, boiler economisers, engines, pumps, and screening and dredging plant..... | 40,000 |
| Pumping mains.................. | 87,000 |
| Outfall works..................... | 128,000 |
| Effluent outfall to sea, including piling........................ | 15,000 |
| | 489,000 |
| Contingencies, 10 per cent, say..... | 49,000 |
| | £ 538,000 |

BUILDINGS IN CANTON.—Vice Consul General Myers makes the following report on construction work in this city:

"On Shameen, during 1909, a municipal bath house was constructed at a cost of approximately $8,160. A "go-down" and junior staff quarters for the Hongkong Shanghai Banking Corporation, and a building for the Chartered Bank of India, China, and Australia are under construction. The examination shed and quarters for the outdoor staff of the Imperial Maritime Customs, situated opposite Shameen, at Honam, was completed last year. The bund from Tai-sha-tau to Shameen was also pushed forward and practically finished. Many new buildings, semiforeign, were erected along the bund during this time. At Tai-sha-tau the imposing railway terminus for the Canton-Kowloon Railway was completed. At Tungshan residences and railway buildings for the use of the staff, and also several schools and residences for American missionaries have been constructed. During the year the new dormitory building of the Canton Christian College was completed at a cost of about $14,300.

"About one-half mile outside the east gate is the legislative building of the provincial assembly. This building was so far completed as to permit of the assembly sitting during the latter part of its session in November."

MANILA'S NEW WATER MAINS.—The Atlantic Gulf and Pacific Company made a record in the laying of water mains, completing the contract eighteen months previous to the time required in their contract. In all there were twenty-two miles of pipe laid varying from four to forty-five inches in diameter.

F. M. S. PUBLIC WORKS.—The total expenditure under this head for the year 1909 amounted to $6,750,000, about $2,000,000 less than the estimates. During the year 83 miles of metaled roads were added throughout the states and 75 miles of bridle paths. The total mileage of road at the present time aggregate 1,874 of metaled roads and 1,477 miles of bridle paths. The Krian irrigation scheme involved an expenditure of $30,000.

YOKKAICHI HARBOR IMPROVEMENTS.—An appropriation of yen 2,500,000 has been made to develop this important harbor. A retaining wall 400 feet in length is to be built and the basin deepened from 22 to 28 feet. A channel about 120 yards wide and 28 feet deep is also contemplated.

NEWCASTLE'S PORT IMPROVEMENTS.—The following is the report of Consul Killmaster:

"Good progress is being made generally in the improvement of the port. During 1909, 4,750 tons of bowlders were removed by dredges at the entrance, and it is thought that in the course of a few months the navigation department, which is now sounding the actual depth available in the channel, will find a passage of navigable width to carry no less than 23 feet of water at low-water spring tide. The clearing away of these bowlders is no doubt of immense importance and opens up possibilities of obtaining a deep port with small expenditure, compared with what would have been required had solid rock existed, as was first thought. On the inner crossing a depth of 32 feet has been tested without finding solid rock, and on the other crossing a depth of 26 feet.

"During the past year the expediency of extending the northern breakwater to the harbor entrance was considered by the Government, and after public inquiry the committee on public works reported in favor of extending both northern and southern breakwaters a distance of 420 feet, at a cost of $450,000. However, parliamentary effect could be given to only that part of the committee's recommendation as to the northern breakwater, and an enabling act to carry out this work at a cost of $175,000 was passed in December, 1909. Work has been commenced, and so far 3,500 tons of stones have been deposited. With the completion of this extension it is anticipated that a channel depth of 25 feet at low-water spring tide will easily be maintained."

TOKYO BAY CANAL.—The *Tokyo Asahi* reports that a plan is on the tapis to launch a large company with a capital of 15,000,000 yen with the purpose to construct a canal across Tokyo Bay, says the *Japan Times*. According to its plan, the canal is to be constructed between Haneda and Shibaura. It is to be 200 ken broad and 30 ft. deep, so that big vessels of 10,000 tons or more can directly proceed to Tokyo from the Pacific and anchor close to the metropolis. Besides the construction of the canal the new company will reclaim an area of about 6,000,000 tsubo along the canal, with the sand got by the excavations at Haneda point and by the dredging off Omori and Shinagawa. On a part of the reclaimed ground a railway line will be laid and many godowns constructed, while the remaining part will be let or sold. Fixing the business term of the company for ninety-nine years the company will collect tonnage dues at the rate of 10 sen per ton from vessels passing through the canal and on the expiry of the term the canal will be handed over to the Government. As soon as quarter, viz., 3,750,000 yen, of the entire capital is paid up the company will start work, resorting to loans or the issue of debentures for construction funds.

HARBOR AT SOURABAYA.—The improvements to this harbor will cost approximately florins 14,000,000 and will be completed in five years.

NEW BRIDGE OVER THE PASIG.—The plans for the new railway bridge over the lower Pasig in Manila are well under way. It will cost about ₱1,250,000 which will be borne by the Manila Electric Railway, the City of Manila and the Manila Railway Company. This bridge is to serve as the connecting link between the new port and the business section and the railways will occupy it with their track extensions.

PUBLIC AQUARIUM FOR MANILA.—The Insular Architect is preparing plans for the construction of an aquarium containing 24 plate glass tanks and some large tanks to be located at the gates to the Old City Walls. A collection of large fish, sharks and crocodiles are to be included in the collection.

STRAITS SETTLEMENTS PUBLIC WORKS.—Special reference was made in the report for 1909 to the development of the work on the new docks and wharves at Singapore and Penang.

The progress of the lagoon dock and main wharf reconstruction, Tanjong Pagar, by Messrs. John Aird and Co., has not been all that had been anticipated with such experienced contractors. In the lagoon dock some difficulty has been met with in sinking the foundations for the end walls of the dock, due to the nature of the strata met with in the trenches, but negotiations are proceeding between the engineers and the contractors with a view to coping with the difficulty in question. The chairman of the Tanjong Pagar Dock Board is now in London in connection with these negotiations. I regret that I am not yet in a position to give full information on the subject but hope to be able to do so shortly. The first completed length of 500 feet of the concrete block work wall of the main wharf reconstruction was handed over to the board on March 5, and operations on the next 700 feet of cylinder construction wharf have been pushed forward satisfactorily. The daily average number of men employed on the works has until latterly, been 3,000, and the value of work executed to date is £340,000. It is satisfactory to note that progress on the new graving dock, Keppel harbour, a most important addition to the facilities of the Port, has proceeded uninterruptedly, and that the works are in full swing both by day and night, with every prospect of their due completion well within the contract time. The daily average number of men employed on these works is 1,000 and the value of work executed to date is about £76,000. The Telok Ayer reclamation is proceeding satisfactorily. The extensions to Swettenham pier, Penang, have progressed rapidly. The northern extension of 345 feet is completed and the southern extension of 255 feet will be half completed by the end of the year. When these extensions are finished the pier will be 1,200 feet long with water frontage 30 feet deep at low tide.

HARBOR OF HAKODATE.—Hakodate's harbour facilities will be greatly increased when the scheme forming part of the "15 Years Programme" shall have been carried out. A breakwater will be extended to 3,300 shaku, which will expand the inner harbour to 3,600,000 yards. This is chiefly against the North-west wind. Another project is two embankments, to keep out the sand, to be erected on the other side of the harbour with a distance between them of some 17,000 shaku. These undertakings are begun this year and to be extended over 8 years. The total expense is 1,669,734 yen.

Again Hakodate boasts of a private dockyard—the Hakodate Dock Company—at the reclaimed ground at this city's west end. It covers over 25,800 tsubo, and has accommodation for ships of 10,000 tons.—*Japan Times*.

## SHIPBUILDING, MERCHANT MARINE, FISHERIES, ETC.

NEW STEAMERS FOR THE MITSUI BUSSAN.—Five coal steamers have been ordered from a British shipyard and they are expected completed early next spring. Two of the new vessels will have a carrying capacity of 8,200 tons, dead weight; two, a capacity of 3,000 tons and one which may be converted into a general cargo steamer with a capacity of 5,000 tons. They are all to be of the cantiliver type, the water ballast being placed on either side of the deck with concave surface of the tanks facing the cargo.

The two large steamers which are to be known as the Kingasan and Tenpaisan Maru are to be fitted with 10 wenches, 12 derricks and five hatches 36ft. by 31ft. Their steaming capacity will be 10½ knots when fully loaded and 11½ knots in ballast. The two smaller steamers are to be known as the Rokkosan Maru and Takaosan Maru and are to be fitted with 9 wenches and 8 derricks and are to have four hatches 28 by 18½ feet. These steamers will have a speed of 10½ knots when loaded and 10½ knots when steaming in ballast.

JAPANESE DREADNOUGHT LAUNCHED.—The Kawachi has been launched at Yokosuka. This battleship was laid down in January, 1909. Her tonnage will be 20,850 with a speed of 20.5 knots. Her dimensions are: length 480 feet; beam, 85 feet. She draws 28 feet. Curtiss turbines will be installed and she will have four screws. She will have six turrets, and two pole masts. Her armament will consist of a main battery of twelve 12-inch a secondary battery of ten 6-inch, and twelve 4.7 inch and five submerged torpedo tubes will be added.

JAPANESE FISH DEPOTS.—Consul Diechmann writes that the Japanese government is interested in the establishment of modern fish depots at Nagasaki and Shimonoseki for the benefit of the steam trawlers. A cold-storage plant would be an essential part of the scheme, and the fish could be sent to all points in the interior of Japan having rail connection, and would vastly increase the market for the fish.

The whaling industry is also one of increasing importance. The Toyo Hogei Kaisha is a combination of several whaling companies and owns 36 of the 40 vessels licensed by the Japanese Government to engage in whaling. The total number of whales caught by this company during 1909 was 605, which had an estimated value of $1,500 each. The port of Moji is the supply and shipping point for a laıge number of the whalers.

VESSEL FOR U. S. NAVY.—The s. s. Banaag was launched from the Kowloon Docks last month. This vessel was ordered by the American Government for service at Olongapo Naval Station. It is 160 feet in length with 16 foot beam and designed to develop a speed of nine knots. She is equipped with triple expansion engines of modern type. A large horizontal tube boiler is installed.

AUSTRALIAN STEAMSHIP SERVICE.—The *Daily Consular Reports* contain the following from Acting Consular Agent at Townsville:

"The Dutch line of steamers (Koninklijke Pakevaart Maatschappij) between Batavia and Australia is still maintained. The line now has three vessels running monthly, the principal imports being spices, gum, and kapok. Batavia is establishing another outlet for Australian live stock, and already several shipments of horses have gone forward.

"The subsidized monthly service from London via Torres Straits inaugurated by the Queensland government is proving a boon, and every advantage is being taken of the service by merchants. These vessels berth at the Jetty Wharf and land their cargo there. Under the vigorous immigration policy adopted by the Queensland government large numbers of immigrants come forward by these vessels monthly.

"Trade relations with the Philippines are principally maintained by three British lines and one Japanese, frozen meat and live stock being the principal exports. The China Navigation Company (Limited) has contracted for carrying regular monthly shipments of horses and ponies to Manila. It may, perhaps, be advantageous for an American shipping line to consider the advisability of inaugurating a service between Australia and the Philippines and the East generally to cater for this business, which is sure to increase."

THE CHINA MERCHANTS STEAM NAVIGATION CO.—The shareholders of this company have presented another petition to the Government asking that the sole management of the company left to the merchants intersted. They claim that Government control is expensive and inconvenient.

THREE JAPANESE SUBMARINES.—A Kure report is to the effect that the naval authorities are constructing three modern submarines at a special workshop in the Kure arsenal.

A NEW ZEALAND SUBSIDY.—The Government of New Zealand has decided to subsidize the N. A. mail line to San Francisco and to otherwise encourage shipping so as to secure her share of the Pacific trade.

T. Y. K. REDUCES RATES.—This company has reduced its passenger rates from Yokohama to Seattle to Yen 250 first class and yen 134 second class.

OIL BURNING DESTROYER FOR U. S NAVY. The trial tests of this new vessel show an average of 32.8 knots.

JAPANESE SUBSIDIZED STEAMERS.—The following is a list given by the *Japan Mail* of the steamers and lines now enjoying the benefit of the provisions of the Japanese Deep Sea Navigation Subsidy Law:

| Lines. | Subsidy. yen. | Companies. |
|---|---|---|
| Antwerp (European) line | 3,183,000 | N. Y. K. |
| San Francisco line....... | 2,051,000 | T. K. K. |
| Seattle line.............. | 387,700 | N. Y. K. |
| Tacoma line.. ........ | 821,800 | O. S. K. |
| South American line..... | 405,600 | T. K. K. |
| Australian line.......... | 425,700 | N. Y. K. |

On the European line are employed eleven steamers, namely, *Tango Maru*, *Hitachi Maru*, *Iyo Maru*, *Kaga Maru*, *Aki Maru*, *Kamo Maru*, *Mishima Maru*, *Atsuta Maru*, *Miyazaki Maru*, *Kitano Maru* and *Hirano Maru*, and the last named six steamers being all the newly built 8,600 tons steamers. On the San Francisco line are employed the *Chiyo Maru*, *Tenyo Maru* and *Nippon Maru*; on the Seattle line the *Awa Maru*, *Tamba Maru* and *Inaba Maru* and on the Tacoma line the *Tacoma Maru*, *Seattle Maru*, *Panama Maru* and *Chicago Maru*, all of them newly built, 6,000 ton steamers. On this line will be placed the two new steamers the *Mexico Maru* and *Canada Maru* from next year.

SHANGHAI SHIPBUILDING.—The tug Kathryn built to the order of the Kochien Towboat and Transportation Company made an average speed of 9.58 at her trials last month and was formally turned over to her owners. The dimensions of this vessel are:

Length, 70 feet; breadth, 14 feet; depth, 8 feet. Her engines are of the compound condensing type with cylinders 11 in. and 22 in. with 12 in. stroke. Marine type boilers, with return tubes 7 ft. 10 in. in diameter and 8 ft. in length working at 120 lbs. pressure to the square inch, are installed.

ZAFIRO AND RUBI CHANGE FLAGS NOVEMBER 7.—The transfer of the steamers Zafiro and Rubi of the China and Manila Steamship Co. to the Philippines coastwise service, which necessitated their transfer from the British to the American flag, has been arranged. With the transfer an American master and crew will take charge. It is understood that Captain Crosby of the Interisland Transport Service is to command the Rubi and Captain Rice, the Zafiro

TOYO KISEN KAISHA EXPANSION.—In carrying out its contract with the Western Pacific, this company proposes adding two vessels, making five vessels covering this connection. The America Maru is to be refitted for the purpose and a new turbine driven steamer, a sister ship of the Chiyo and Tenyo, now under construction at the Mitsu Bishi Dockyards at Nagasaki, will be added when completed. The five steamers will be in operation on this line by January next year.

The *Mexican Herald* states that with the withdrawal of the Kosmos Line from the Pacific coast trade between Salina Cruz and South and Central American ports, Toyo Kisen Kaisha Line will be left alone in the trade. In view of this fact, that line will increase its capacity to five steamers of large tonnage beginning October 6. It is probable that the sixth vessel will be added to the service before the end o the year.

The Kiyo Maru, 17,000 tons, will arrive at Salina Cruz October 6, the first steamer on the new schedule. She will be followed at intervals of twenty five days by the Manshu Maru, 8,200 tons; Hong Kong Maru, 11,000 tons; America Maru, 11,000 tons, and Buyo Maru, 11,000 tons.

About four months will be occupied in the round trip over the route from Hongkong, China, to Kobe and Yokohama, Japan; Honolulu, Hawaii; Manzanillo, and Salina Cruz, Mexico; Callao, Peru; and Iquique and Valparaiso, Chile.

The new service will reduce the time between South American ports and London from four months to two months, and the time between Salina Cruz, Mexico, and Callao, Peru, will be cut down from thirty to eight days.

This new service will be inaugurated to handle the increased business which will result when the Komos Line abandons the port of Salina Cruz. It will handle the traffic from the Orient to Mexico and South America, which will result from the recent traffic agreement entered into by the Western Pacific Railway Company and the Toyo Kisen Kaisha Line. The cargo from San Francisco to Mexico and South America will be handled by way of Honolulu on the vessels of the Toyo Kisen Kaisha Line steamers which ply between San Francisco and the Orient. This cargo will be transferred at Honolulu to steamers in the southern trade

## MINES, MINERALS, THE METAL TRADE, MACHINERY, ETC.

THE BRUSEH TIN MINING COMPANY.—The report for the year shows a profit of $5,710.38. No dividend was declared. This company is becoming interested in rubber.

BURMA OIL COMBINE.—The Burma Oil Company is to have a formidable rival in the form of a combination of the Rangoon Oil Co., Ltd., with an authorized capital of R2,000,000, and an issued capital of R1,194,760, last dividend 55 per cent., and latest quotation on its R10 shares, R55; the Rangoon Refinery Co., Ltd., with R1,500,000 capital fully issued, no dividend, but its R15 shares standing at R18; and the Aungban Oil Co., Ltd., with an authorized capital of R3,500,000, issued capital R2,550,000, no dividend, its R15 shares standing at R13¼.

RAHMAN HYDRAULIC TIN COMPANY.—The report for the year shows that after writing off $16,213.40 for depreciation, shows a profit of $67,658.70. Interim dividends absorbed $31,869 leaving a balance of $35,797.70 which was dealt with as follows: Final dividend $15,930.50, bonus mine staff $1,300, general reserve $10,000, forward $8,567.20. A final dividend of 5% was declared making 15% for the year.

THE PAULO LAUT COAL MINING COMPANY.—The output of this company for the year 1909 amounted to 119,000 tons compared with 98,000 for 1908. Over 160 vessels bunkered at Stagon, the port of the company in British Dutch East Borneo during 1909.

MANUFACTURING PLANTS FOR JAPAN.—The Japanese press claims that the recent tariff is having the effect of inducing foreign manufacturers to establish themselves in Japan and point to the proposal of Messrs. Babcock & Wilcox to establish a boiler manufacturing plant It is understood that the Mitsu Bishi and Mitsui banks have been in communication with several large foreign manufacturers looking to the encouragement of this scheme.

THE COWIE HARBOR COAL COMPANY, LTD.—The *London and China Express* in reviewing the proceedings of the annual meeting stated that the chairman expressed the hope that

over 200 tons daily would be the output during this year and that the company had proved up 20,000,000 tons on their holdings.

THE PEKING SYNDICATE.—With the return of the force of colliers after the local harvests, the output of these mines is represented by 1,200 tons of coal daily. The output for July reached 23,000 tons and sales 17,500 tons.

KRUPPS MAY INVADE CHINA.—A London report is to the effect that in view of the large ordnance orders soon to be placed by the Chinese Government and the increased activity in this line of development in the Far East, the firm of Krupps is endeavoring to secure a site for the establishment of a plant in China.

THE EASTERN SMELTING COMPANY.—The report for the half year shows larger and more satisfactory returns than ever the previous corresponding term. A dividend of 4% was declared and $20,000 carried forward.

NEW DREDGER FOR THE TONGKAH COMPOUND TIN DREDGING COMPANY.—An order has been placed by this company in Australia for a tin dredger designed to work at a depth of the 35 feet below water level, the dimensions of the hull to be 120 feet in length, 40 foot beam and a depth of 7.5 feet. The price named is £18,000. The dredge will be utilized on the company's concession, Tongkah Harbor, Siam.

F. M. S. TIN EXPORT.—The Mines office has issued a statement of the exports for the first eight months of the year as follows:

The figures for Perak, Selangor and Negri Sembilan respectively are as follows:—

| Tin. Pikuls. | Tin Ore. Pikuls. | Total. Pikuls. | Duty. $ c. |
|---|---|---|---|
| 66,304.44 | 218.853.71 | 285,158.15 | 2,742,916.47 |
| 28,621.33 | 134,495.41 | 163,116.74 | 1,598,097.33 |
| 85.87 | 23,809.98 | 23,895.85 | 234,148.08 |

The figures for the corresponding period of 1909 were:—

| Tin Pikuls. | Tin Ore. Pikuls. | Total. Pikuls. | Duty. $ c. |
|---|---|---|---|
| 71,535.17 | 223,611.78 | 295,146.95 | 2,548,210.59 |
| 30,095.54 | 143,316.66 | 173,412.20 | 1,499,743.07 |
| 4,264.83 | 27,458.00 | 31,722.83 | 273,208.72 |

BELAT TIN MINING COMPANY, LTD.—At a recent meeting of this company a dividend of 20%was declared making 30% for the year.

GOLD AND TIN IN KELANTAN.—The report for 1909 states that the Duff Development Company worked four dredges in the Galas River and won 8,507 ounces during the year. Another dredge is now working on the Nenggiri River where the company has a concession covering seven miles of the river. The output tin for the year amounted in all to 69 piculs.

OIL WAR IN SINGAPORE.—A war in the price of oil was inaugurated between the Standard Oil and the Asiatic Petroleum Company upon the conclusion of their agreement a month ago. There has been a drop of 40% in the price and the latest advices from Singapore are to the effect that Standard Arrow brand was quoted at $1.00 Straits Cur. a case of eight gallons while the Asiatic Dragon was quoted at the same price. These brands were formerly quoted at $1.70 and 1.53 respectively.

NEW TIN MINING SYNDICATE.—The formation of a company to exploit tin lands near Batu is proposed as a result of the tests made by the Kepong Syndicate, Ltd., on over 30 acres of tin bearing land. The capital of the company is reported to be £150,000. The total area involved is 227 acres.

HANGYANG IRON WORKS SECURES LARGE RAIL CONTRACT.—The contract for the supply of 6,000 tons of steel rails to the Northern Section of the Tientsin-Pukow Railway has been secured by the Hangyang Iron Works. The price is reported to be Tls. 50 a ton.

NEW ALLOY DISCOVERED.—Messrs. Vickers, Sons and Maxim have placed a new alloy on the market known as Duralumin which is reported to be slightly heavier than aluminum and as strong as steel. The new metal may be rolled, stamped, extended or forged at suitable temperatures.

MINING IN INDO-CHINE.—A bulletin issued by the Governor General directs attention to the undeveloped mineral wealth of the country and urges greater activity in developing the coal measures of Hongay. The zinc mines of Trang-da, Lang-Hit and the Thang-Moi produced 40,000 tons of zinc last year and lead and copper deposits have been uncovered at Caobang.

F. M. S. TIN RETURNS FOR AUGUST.—The returns show a total output of 13,741 piculs.

THE RAUB AUSTRALIAN GOLD MINING CO., LTD.—For the four weeks ended August 13, 3,993 tons of ore were crushed and 802.23 oz. of gold recovered.

## FINANCIAL, COMMERCIAL AND MISCELLANEOUS NEWS

THE NETHERLANDS INDIA BUDGET.—The total estimates for 1911 show a total revenue of florins 212,588,075 as against an expenditure of florins 230,738,102.

PRODUCTS OF JAVA.—The annual report of the Java Bank contains some interesting figures concerning the principal agricultural products of Java. The production of sugar, for instance, has been very favorable during 1909, as 180 factories produced 20,208,000 piculs (Javan picul = 136 pounds), which is about 140,000 piculs more than in 1908. This quantity changed hands at an average price of 6.60 florins (florin = 40½ cents) for Muscovados. The Deli tobacco crop yielded 271,350 bales, being about 1,000 bales less than a year ago. The average price per half kilo (1⅕ pounds) was 1.10 florins, against 0.91 of a florin, and the total value of the crop has been fixed at 46,600,000 florins, or nearly 8,000,000 florins more. The crop of Java tobacco was disappointing, 506,013 bales being exported, or a decrease of 110,000 bales. The proceeds were only 25,740,000 florins, against 32,400,000 florins in 1908. The cultivation of tea is also constantly advancing, so that in 1909 20,176,376 kilos were exported from Java against 15,979,269 kilos in 1908. This culture will be still more largely extended, foreign capitalists also being interested. Of copra, 129,089 tons, at a value of 25,600,000 florins, have been shipped from Netherlands East India.

CHINA'S BUDGET.—The estimates prepared by the Ministry of Finance include a total expenditure of Tls. 333,502,300 while the revenue is estimated at Tls. 297,501,700, a deficit of Tls. 36,006,600.

CHINESE BONDS.—A Reuter dispatch from London is to the effect that Chinese bonds for the amount of £450,000 being 7% interest were issued in London on the 26th On Saturday last they were quoted at a premium of from £1 to £2; the present quotatation is £108. The amount is to be appropriated for the redemption of the Peking-Hankow railway bonds.

PHILIPPINE SUGAR.—The reports from Panay and Negros are to the effect that production for 1910-11 will reach 2,096,000 piculs, an increase over last year of about 48 per cent.

MANILA REVENUE.—During the first quarter of the fiscal year ended September 30th the total collections from all sources amounted to ₱442,050.35, an increase of ₱15,112 over the returns for the corresponding quarter last year.

GOLD YEN NOTES FOR MANCHURIA.—The *Manchuria Daily News* states that yen 1,000,000 of newly issued yen 5 gold notes were received last month by the Dairen Branch of the Yokohama Specie Bank in exchange for the old notes.

WILD COCOON SILK REELING STATION AT ANTUNG.—It is proposed by several Japanese capitalists to incorporate a company with a capital of yen 500,000 for the purpose of operating 100 reels at this point in view of the quantity of wild cocoons available in that region.

SOME RUBBER DIVIDENDS.—The *Malay Mail*, commenting on enviable dividend-producing companies, says:

"The Tremelbye dividend announced today brings another F. M. S. rubber company into the list of dividend-paying concerns. This Company has an authorized capital of £75,000, and an issued capital of £52,552, consisting of 46,552 fully-paid £1 shares and 12,000 £1 shares issued last year and now ten shillings paid. The Company's estates, comprising 2,186 acres in all, are Tremelbye, Ebor, and Sungei Nebong. There are 1,545 acres planted, including 1,002 acres over 2½ years old, 249 acres over 3½ years old and 108 acres over 5½ years old. There are, approximately, 228,370 trees. The crop for the year ended June 30th was 22,118 lb., and, as the output for July and August alone is more than half this total, it is evident that this year's crop will very largely exceed last year's. The prospects of the Company appear very bright.

"The Cicely Company is one of the lowest capitalised concerns in the country—£16,000—and its dividend record makes a pretty picture. It has declared the following dividends to date:

| | Pref. | Ord |
|---|---|---|
| 1905-6 | 10 | 5 |
| 1906-7 | 20 | 15 |
| 1907-8 | 42½ | 37½ |
| 1908-9 | 55 | 50 |
| 1909-10 | 140 | 135 |
| 1910-11 | 51¼ | 50 (int.) |
| | 318¾ | 292½ |

"It would appear from the amount of the interim dividend on the preference shares that the directors contemplate paying further dividends for the current financial year of 153¾ on the preference and 150 on the ordinary shares

SIBERIA COLONIZING SCHEME.—It is estimated that the Russian Government will expend Roubles 2,500,000 in encouraging emigration to Siberia this year. Over 13,000,000 acres are to be surveyed into 40 acre plots and each adult is entitled to acquire one plot. Besides money will be advanced to aid the colonists and it is estimated that over 500,000 persons will be transported to the new territory.

PHILIPPINE SUGAR BONDS PROPOSED.—Governor General Forbes has recommended that the legislature provide a fund for the purchase of bonds issued by sugar companies composed of hacienda owners, the capital to be utilized in installing sugar centrals in the Philippine sugar districts

HONGKONG-MANILA PARCEL POST.—The Hon C. B. Elliott, Secretary of Commerce and Police, and the Postmaster General of Hongkong recently concluded negotiations for the opening of a direct parcel post service between the two cities. The maximum size of parcels will be 3 feet 6 in. in length and the maximum weight 11 pounds, including all classes of merchandise. The rate will be 35 centavos per pound or fraction. An extra sum of ten centavos in Manila and 15 centavos in Hongkong will be charged for delivery to street address. Conventions of a similar nature are proposed with other colonies and the islands and direct money order exchange is being considered.

# FAR EASTERN STOCKS AND QUOTATIONS

*Courtesy of Messrs. Kadoorie & Co., Hongkong, September 30, 1910.*

| STOCK. | WHEN ESTABLISHED | CAPITAL | NO. OF SHARES | VALUE | PAID UP | RESERVE | AT WORKING ACCOUNT | DATE | LAST DIVIDEND. | Approximate Yield per cent per annum at Present Quotation | CLOSING QUOTATIONS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **BANKS.** | | | | | | | | | | | |
| Hongkong & Shanghai Banking Corporation | 1865 | $15,000,000 | 120,000 | $125 | $125 | g £1,500,000<br>s $16,000,000<br>i $250,000 | $2,029,390 | 31-6-10 | £2. for first half year ending 30-6-10, @ ex 1\|9⅜ = $22.456 | 5% | $927½ sales<br>£87 |
| National Bank of China, Ld. | 1891 | £699,475 | 10) 99,925 | £7 | £6 | c £4,009<br>$400,000 | $34,167 | 31-12-09 | $2 (London 3\|6) for 1903 | ... | $78 buyers |
| **MARINE INSURANCES.** | | | | | | | | | | | |
| Canton Insurance Office, Ld. | 1881 | $2,500,000 | 10,000 | $250 | $50 | $1,560,000<br>j $254,583<br>u $302,799 | Nil. | 31-12-08 | $10 for 1908 | 5½% | $190 buyers |
| North China Insurance Co., Ld. | 1903 | £150,000 | 10,000 | £15 | £5 | g £125,000<br>s Tls. 225,000<br>u Tls. 335,253<br>f Tls. 146,586 | Tls. 206,573 | 30-6-09 | Final of 7\|6 making 15\|- for 1908. | 5% | Tls. 115 |
| Union Ins. Society of Canton, Ld. | 1867 | $3,100,000 | 12,400 | $250 | $100 | s $3,000,000<br>g £90,000<br>f $287,984<br>j $1,449,735<br>u $713,985 | 2,552,545 | 31-12-09 | Final of $20 per share, making in all $50 per share for 1908, and an int. div. of $30 per share for 1909 | 6% | $825 sales |
| Yangtsze Ins. Association, Ld. | 1889 | $1,200,000 | 12,000 | $100 | $60 | $1,000,000<br>j $371,802<br>$169,861 | $797,602 | 31-12-09 | $12 for year ending 31-12-08 and interim of $3 on account of 1909 | 7 | $200 |
| **FIRE INSURANCES.** | | | | | | | | | | | |
| China Fire Ins. Co., Ld. | 1870 | $2,000,000 | 20,000 | $100 | $20 | $1,000,000<br>x $550,348<br>f $61,168 | $438,406 | 31-12-09 | $6 and bonus $2 for 1908 | 7% | $115 sellers |
| Hongkong Fire Ins. Co., Ld. | 1868 | $2,000,000 | 8,000 | $250 | $50 | $1,460,000 | $426,218 | 31-12-09 | $27 for 1908 | 8% | $355 buyers |
| **SHIPPING.** | | | | | | | | | | | |
| China & Manila Steamship Co., Ld. | 1882 | 3 $750,000 | 1) 30,000 | $25 | $25 | i $57,734 | Dr. $3,777 | 31-12-09 | $4% for 1906 | .... | $10 buyers |
| Douglas Steamship Co., Ld. | 1883 | $1,000,000 | 20,000 | $50 | $50 | $230,000<br>i $100,589 | Nil. | 30-6-10 | $2½ for year ending 30-6-1908 | .... | $23 sellers |
| Hongkong, Canton & Macao Steamboat Co., Ld. | 1865 | $1,200,000 | 80,000 | $15 | $15 | s $250,000<br>d. i. $630,000<br>f $130,545<br>$ 1 106 | $18,026 | 30-6-10 | Dividend of $1½ for half year ending 30.6.1910 | 8% | $32 sellers |
| Indo-China Steam Navigation Co., Ld. (Preferred)<br>Do. Do. (Deferred) | 1882 | m £600,000 | 2) 60,000<br>2) 60,000 | £5 | £5 | i £148,891 | £15,162 | 31-12-08 | No dividend paid for last two yrs. | .... | $58 sales |
| "Shell" Transport & Trading Co., Ld. | 1898 | £ 2,000,000 | 2,000,000 | £1 | £1 | £120,000<br>i £1,000,000 | £205,868 | 31-12-09 | Final div. of 2\|6 per share (coupon 14) making in all 4\|6 per share for 1909, and an int. div. of 1s. per share on % for 1910 | 5% | 83\|6 buyers<br>£11 buyers |
| "Star" Ferry Co., Ld. | 1898<br>1900 | $200,000 | 10,000<br>10,000 | $10<br>$10 | $10<br>$5 | $6,500<br>i $55,830 | $1,159 | 30-4-10 | A dividend of 7% and bonus of 5% making 12% for year ending 30.4.1910 | 5%<br>6% | $23 sellers<br>$10 |
| **REFINERIES.** | | | | | | | | | | | |
| China Sugar Refining Co., Ld. | 1878 | $2,000,000 | 20,000 | $100 | $100 | s $520,000<br>r $83,620 | Dr. $8,090 | 31-12-09 | $5 for half year ending 30-6-1910. | 6% | $150 sellers |
| Luzon Sugar Refining Co., Ld. | 1882 | $700,000 | 7,000 | $100 | $100 | none | Dr. $101,851 | 31-12-09 | $3 for 1897 | — | $20 sellers |
| **MINING.** | | | | | | | | | | | |
| Chinese Engineering & Mining Co., Ld. | 1901 | £1,000,000 | 1,000,000 | £1 | £1 | d £215,000<br>h £12,289 | .... | .. | Interim of 1\|6 for 1910 (coupon 14) | 9% | Tls. 15 sellers |
| Headwaters Mining Co. | 1908 | ₱600,000 | 28) 600,000 | ₱10 | ₱10 | | | | First year | | ₱10 buyers |
| Raub Australian Gold Mining Co., Ld. | 1892 | £200,000 | 150,000<br>50,000 | £1<br>£1 | 18-10<br>£1 | £4,873 | Dr. .... | .. | 1\|2 per share, 13th div. | 5% | $7½ sellers |
| Oriental Consolidated Mining Co. Ld. | .... | g $5,000,000 | 500,000 | g $10 | $10 | none | .... | .. | Final of gold $0.65 for 1909 in all g $1.15 | .. | 30\|- buyers |
| **DOCKS, WHARVES AND GODOWNS.** | | | | | | | | | | | |
| Fenwick (Geo.), & Co., Ld. | 1889 | $450,000 | z 18,000 | $25 | $25 | $25,275 | Dr $8,460 | 31-12-09 | $1½ for year ending 31-12-06 | .... | $9 sellers |
| Hongkong & Kowloon Wharf & Godown Co., Ld. | 1886 | $3,000,000 | 60,000 | $50 | $50 | $550,000<br>t $31,993<br>s $40,000 | $4,848 | 31-12-09 | $2½ for 1909 | 4½% | $54 buyers |
| Hongkong & Whampoa Dock Co., Ld. | 1866 | $2,500,000 | 50,000 | $50 | $50 | i $88,214<br>v $221,000 | $148,940 | 30-6-10 | 3% for half year ended 30-6-1909 | .. | $50 sellers |
| Shanghai Dock & Engin'g Co., Ld. | 1906 | Tls. 5,570,000 | 13) 55,700 | Tls. 100 | Tls. 100 | Tls. 1,000,000 | .... | .. | Final of Tls. 3½ making Tls. 6 in all for year 30-4-1910 | 8% | Tls. 75 sellers |
| Shanghai & Hongkew Wharf Co., Ld. | 1902 | Tls. 3,600,000 | 36,000 | Tls. 100 | Tls. 100 | b Tls. 697,257<br>r Tls. 50,000<br>s Tls. 125,000 | .... | .. | Interim of Tls. 3 for 1910 | 7 | Tls. 110 sellers |
| **LANDS, HOTELS AND BUILDINGS.** | | | | | | | | | | | |
| Anglo-French Land Investment Co., Ld. | 1906 | Tls. 2,500,000 | 3) 25,000 | Tls. 100 | Tls. 100 | Tls. 35,000 | Tls. 4,314 | 29-2-09 | Tls. 6 for year ending 29-2-10 | 5⅜ | Tls. 97 sales |
| Central Stores, Ld. | — | $751,845 | 16) 50,123 | $15 | $15 | n. $1,000 | $1,000 | 31-12-08 | 8% for 1909 | — | $12½ sellers |
| Hongkong Hotel Co., Ld. | 1866 | $600,000<br>$400,000 | 12,000<br>8,000 | $50<br>$50 | $50<br>$25 | $648,975<br>r $20,000 | $21,477 | 30-6-10 | $3 on old shares, $150 on new shares, for half year ending 30-6-10 | 5½% | $100<br>$75 |
| Hongkong Land Investment & Agency Co., Ld. | 1889 | $5,000,000 | 50,000 | $100 | $100 | s $250,000 | $27,971 | 31-12-09 | Interim of 3½ for 1910 | 7% | $101 saels |
| Humphreys' Estate & Finance Co., Ld. | 1887 | $1,500,000 | 150,000 | $10 | $10 | i $226,945<br>20) $25,856 | $5,471 | 31-12-09 | 45 cents for 1909 | 5⅜% | $7½ sellers |
| Kowloon Land & Bldg. Co., Ld. | 1889 | $300,000 | 6,000 | $50 | $30 | none | $269 | 31-12-09 | $2½ for 1909 | 8% | $32 buyers |
| Shanghai Land Investment Co., Ld. | 1888 | Tls. 3,900,000 | 78,000 | Tls. 50 | Tls. 50 | Tls. 1,523,045<br>s Tls. 300,000 | Tls. 63,969 | 31-12-09 | Interim of Tls. 3 for 1910 | 6⅜ | Tls. 112 |
| West Point Bldg. Co., Ld. | 1889 | $625,000 | 12,500 | $50 | $50 | none | $1,958 | 31-10-09 | Interim of $1.80 for 1910 | 8⅜ | $39 |
| **COTTON MILLS.** | | | | | | | | | | | |
| Ewo Cotton Spinning & Weaving Co., Ld. | 1895 | Tls. 1,000,000 | 5) 20,000 | Tls. 50 | Tls. 50 | Tls. 250,000 | Tls. 10,991 | 31-10-09 | Tls. 11 for year ended 31-10-09 | 8⅜ | |
| Hongkong Cotton Spinning, Weaving & Dyeing Co., Ld. | 1901 | $1,250,000 | 125,000 | $10 | $10 | s 20,000 | $26,297 | 30-7-09 | 50 cents for year ending 31-7-08 | — | $3½ buyers |

# FAR EASTERN STOCKS AND QUOTATIONS—(Continued.)

| STOCK. | When Established | CAPITAL. | No. of Shares. | Value. | Paid Up. | RESERVE | AT WORKING ACCOUNT. | Date. | LAST DIVIDEND. | Approximate Yield per cent. per annum at Present Quotation. | CLOSING QUOTATIONS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| International Cotton Manufacturing Co., Ld. | 1895 | Tls. 750,000 | 6) 10,000 | Tls. 75 | Tls. 75 | Tls. 175,000 | Tls. 8,372 | 30-9-09 | Tls. 7½ for year end. 30-9-09 (10%) | 10% | Tls. 47½ buyers |
| Laou-kung-mow Cotton Spinning & Weaving Co., Ld. | 1895 | Tls. 800,000 | 8,000 | Tls. 100 | Tls. 100 | none | Tls. 4,829 | 31-12-08 | Tls. 6 for 1909 | 10% | Tls. 50 buyers |
| Soy Chee Cotton Spinning Co., Ld | 1895 | Tls. 1,000,000 | 2,000 | Tls. 500 | Tls. 500 | Tls. 31,173 | Tls. 31,173 | | Tls. 35 for 1909 | 17% | Tls. 200 buyers |
| **MISCELLANEOUS** | | | | | | | | | | | |
| Bell's Asbestos Eastern Agency, Ld. | 1895 | £5,377.10s. | 11) 8,604 | 12/6 | 12/6 | £1,500 | £797 | 31-12-09 | 15% for 1909 | | $8 sellers |
| China-Borneo Co., Ld. | 1903 | $720,000 | 8) 60,000 | $12 | $12 | $40,000 | Nil. | 31-12-08 | 5% for 1909 | 6½ | $9 |
| China Light & Power Co., Ld. | 1901 | $300,000 | 50,000 | $5 | $5 | none | $50,242 | 31-7-10 | 60 cents for year ending 28-2-06 | | $1.40 sellers |
| Do. do. Special Shares | 1907 | | 17) 50,000 | $1 | $1 | | | | | | |
| China Provident Loan & Mortgage Co., Ld. | 1898 | a $1,250,000 | 7) 125,000 | $10 | $10 | $80,000 | $2,602 | 31-12-09 | 80 cents for 1909 | 10% | $8 buyers |
| Dairy Farm Co., Ld. | 1896 | $300,000 | 40,000 | $7½ | $6 | l $10,000 $10,000 | $1,850 | 31-7-09 | $1.20 for year ending 31-7-09 | 6½% | $19 |
| Green Island Cement Co., Ld. | 1897 | $4,000,000 | 400,000 | $10 | $10 | $14,000 | $4,290 | 31-12-09 | Interim of 15 cts. per share for 1910 | 15 | $4.65 buyers |
| H. Price & Co., Ld | 1907 | $120,000 | 19) 15,000 | $10 | $10 | none | $1,923.87 | 31-12-09 | 14% viz $1.40 for 1909 | 12% | $12 |
| Hongkong Electric Co., Ld. | 1889 | $600,000 | 60,000 | $10 | $10 | none | $11,798 | 28-2-10 | A dividend of $1.20 per share and a bonus of 10 cts. per share for year end. 28-2-10. | 6½ | $21 |
| Hongkong Ice Co., Ld. | 1881 | $125,000 | 5,000 | $25 | $25 | k $150,000 | $12,662 | 31-12-09 | Interim of $2 per share for 1910 | 6 | $135 |
| Hongkong Rope Manufacturing Co., Ld. | 1883 | $600,000 | $60,000 | $10 | $10 | $40,000 | $9,176 | 31-12-09 | Final of $1 per share making in all $2 for 1909 | 9 | $21 sellerss |
| Maatschappij tot Mijn-, Bosch- en Landbouwexploitatie in Langkat | 1902 | Gs. 2,500,000 | 25,000 | Glds. 100 | Glds. 100 | 21 Tls 547,500 Tls. 547,500 f Tls. 63,914 | Tls. 316,682 | 31-12-08 | Interim Div. of Tls. 12½ 15 March Tls. 12½ 15 June & Tls. 15 15 Sept | 5 | Tls. 1200 |
| Peak Tramways Co., Ld. | 1907 | $750,000 | 25,000 | $10 | $10 | $20,000 | $3,014 | 30-4-10 | 80 cents on fully paid shares & 8 cents on $1 paid shares for year ending 30-4-10 | 5½ | $13 sellers |
| Do. (New) | | | 50,000 | $10 | $10 | | | | | 5 | $1½ sellers |
| Philippine Co., Ld. | 1904 | $750,000 | 75,000 | $10 | $10 | none | Ps. 2,875 | 31-12-09 | None | — | $8 sellers |
| Robinson Piano Co., Ltd | 1900 | $200,000 | 22) 4 000 | $50 | $50 | $5,000 | $61,138 | 31-8-08 | 6% for ½ year ending 30.9.07 | — | $50 sellers |
| Shanghai-Sumatra Tobacco Co., Ld. | 1902 | Tls. 600,000 | 9) 30,000 | Tls. 20 | Tls. 20 | Tls. 24,820 w Tls. 100,000 | Tls. 5,250 | 31-10-08 | No dividend this year | 2 | Tls. 140 sellers |
| South China Morning Post, Ld. | 1903 | $150,000 | 6,000 | $25 | $25 | none | Dr. $31,096 | 31-8-09 | None | — | $25 sellers |
| Steam Laundry Co., Ld. | 1902 | $100,000 | 20,000 | $5 | $5 | none | $127,86 | 31-5-10 | 50 cents for year ending 30-5-10 | 8 | $5½ sellers |
| Union Waterboat Co., Ltd. | 1905 | $500,000 | 15) 50,000 | $10 | $10 | w $11,956 | .. | 31-12-08 | 60 cents for year-end. 31-12-1908. | 6½ | $8 |
| United Asbestos Oriental Agency. Ld. | 1896 | $100,000 | 10,000 | $10 | $4 | $46,000 | $471 | 31-5-10 | 15% per ordinary share for year ended 31-5-10 | 5 | $11½ sellers |
| Watkins, Ltd. | 1899 | $100,000 | 10,000 | $10 | $10 | none | $1,941 | 31-12-09 | 3½ for 1909 | ... | $3 sellers |
| Watson (A. S.) & Co., Ld. | 1886 | $900,000 | 90,000 | $10 | $10 | $300,000 e) $25,000 | $1,776 | 31-12-09 | 3% for 1909 | — | $6½ buyers |
| Weismann Limited | 1904 | $30,000 | 3,000 | $10 | $10 | $12,250 | $67 | 31-7-09 | 10 per cent for year endg. 31.7.08. | 10% | $12 buyers |
| William Powell, Ld. | 1901 | $105,000 | 15,000 | $7 | $7 | none | $782 | 30-6-09 | Final of 30 cents making 80 cents for year ending June 30th 1906 | .... | $2 buyers |
| Societe des Pulpes et Papeteries du Tonkin | | 660,000 | 13,200 | 50 Haiphong | 25 Currency | .... | .. | .... | First year | .... | $30 (Hk.Cy.) sel. |
| **RUBBERS** | | | | | | | | | | | |
| Allagar Rubber Estates, Ltd. | 1909 | £85,000 | 29) 750,000 | 2/- | 2/- | .... | .... | .... | ........... | .... | 4/3 |
| Anglo-Malay Rubber Co., Ltd. | 1905 | £150.000 | 1,500,000 | 2/- | 2/- | .... | .... | .... | 80% for year ending 31.12.09 | .... | 23/- |
| Balgownie Rubber Estate, Ltd. | 1905 | †† $200,000 | ‡‡ 20,000 | †† $1 | †† $1 | $7,400 | $11,205 | 31-3-09 | 6d per share | .... | $12 [Singapore] |
| Castlefield Rub. Ld., [fully pd.] | 1906 | £35,000 | 27) 32,650 | £1 | £1 | none | .... | | ........... | .... | 105/- |
| Damansara (Selangor) Rub. Co. | 1906 | £110,000 | 25 110,000 | £1 | £1 | nil. | £2,220 | 31-12-08 | 50% for 1909 | .... | 137/6 |
| Golconda Malay Rubber Co. | 1907 | £80,000 | 26 80,000 | £1 | £1 | nil. | nil. | — | 25% for 1909 | .... | 110/- |
| Highland & Lnd. Para R. Co. | | | | £1 | £1 | | | | | | |
| Do. Do. [fully paid] | 1906 | £310,000 | =181,454 | £1 | 15/- | £8,784 | .... | .... | 35% for 1909 | .... | 101/- |
| Do. Do. [partly paid] | | | 123,546 | | | | | | | | |
| Kamuning (Perak) Rb. & Tin Co. | | | 950,000 | 2/- | 1/- | | | | | | |
| do do A Shares | 1909 | £200,000 | | | | nil. | nil. | .... | ........... | .... | 5/3 prem. |
| do do B Shares | | | 105,000 | £1 | £1 | | | | | | |
| Kuala Lumpur Rubber Co., Ltd. | 1906 | £180,000 | 180,000 | £1 | £1 | £4,000 | 1,82 | .... | 30% for 1909 | ... | 150/- |
| Linggi Plantations, Ltd. (ord.) | 1895 | £100,000 | × 900,000 | 2/- | 2/- | .... | .... | .... | Interim of 1/- | ... | 45/9 |
| Do. Do. (7% pref.) | Reconst | | 10,000 | £1 | £1 | | .... | .... | | ... | |
| Ledbury Rubber Estates Ltd. | 1908 | £125,000 | §§ 60,000 | £1 | £1 | .... | .... | .... | 17½% for 1909 | .... | 72/6 |
| Do. Do. (contrib.) | | | §§ 40,000 | £1 | 7/6 | | | | | | |
| Sagga Rubber Co. Ld. | 1903 | £20,000 | 24) 2,000 | £1 | £1 | nil. | nil. | .... | 25% for 1909 | .... | 270/- |
| Sandycroft Rubber Co. | 1904 | $100,000 | 50,000 | $2 | $2 | $20,000 | $1,275 | 31.1.08 | 50% interim | .... | $31 |
| Sekong Rubber Co., Ld. | 1908 | £80,000 | 27) 80,000 | £1 | 12/6 | nil. | nil. | — | ........... | .... | 12/6 prem. |
| Shelford Rubber State Ld. | 1906 | £65,000 | 65,000 | £1 | £1 | nil. | £836 | 31.12.08 | 7½% for 1909 | .... | 84/3 |
| Singapore & Johore Rb. Co., Ld. | 1903 | $250,000 | 2,500 | $2 | $2 | nil. | nil. | — | 25% interim | .... | $14 |
| Sungei Choh. Rb. State Co., Ld. | 1907 | £45,000 | 45,000 | £1 | £1 | nil. | nil. | — | ........... | .... | 90/- |
| Sungei Kapar Rubber Co. | 1906 | £110,000 | 23) 110,000 | £1 | £1 | nil. | £3,448 | 31.12.08 | 37½% for 1909 | .... | 12/9 |
| Toerangie Rubber Co. | 1910 | 30) £100,000 | 51,000 | £1 | 7/6 | .... | .... | — | First year | .... | 2/- prem. |

| LOANS AND DEBENTURES. | Agents for the Loan. | Amount of Loan. | Par Value. | Outstanding Bonds. | WHEN PAYABLE. | CLOSING QUOTATIONS. |
|---|---|---|---|---|---|---|
| China Government, 7 per cent. Silver Loan 1886 E. | Hongkong & Shanghai Banking Corporation. | Tls. 767,200 | Tls. 250 | 1914 | Mar. 31st and Sept. 30th each year until Mar. 31st, 1917 | par. |
| Hongkong Hotel Company, Ltd., 6 per cent. Mortgage Debentures of 1899 ‡ | | $750,000 | $500 | § all | Half yearly, June 30th and December 31st | par |
| Shanghai & Hongkew Wharf Company, Ltd., 6 per cent. Debentures of 1902 | | Tls. 543,900 | Tls. 100 | ......... | Half yearly, June 30th and December 31st | Tls. 103½ |
| Astor House Hotel Company, Ltd., 8 per cent. Debentures of 1903 | | Tls. 500,000 | Tls. 100 | ......... | Half yearly, January 1st and July 1st | 102½ |
| Chinese Engineering & Mining Co., Ltd., 6 per cent. Debentures of 1903 † | ......... | £500,000 | ¶ | £431,960 | Half yearly, June 30th and December 31st | par. |
| International Cotton Manufacturing Co., Ltd. 7% Debentures of 1901 | Russo Chinese Bank | Tls. 500,000 | Tls. 100 | ‖ | Half yearly, March 31st and Sept. 30th | Tls. 97½. |

(Closing quotations: Plus interest)

a Authorised capital $2,000,000.
b Building Reserve Account.
c Capital Reserve Fund.
d Depreciation Fund.
e Equalization of Dividend Fund.
f Exchange and Investment Fluctuation Account.
g Gold Reserve Fund
h Exchange and Reserve Account.
i Insurance Fund.
j Reinsurance Fund.
k Contingencies Account.
l Legal Reserve Fund.
m Authorized Capital
n Sinking Fund.
o Raw Sugar Reserve Account.
p Premium on New Issue.
q Boiler Repairs and Renewals Account
r Repairs and Renewals Account.
s Silver Reserve Fund.
t Depreciation and Repair Account
u Underwriting Suspense Account.
v Special account
w Special Works Fund.
x Extra Reserve Fund.
y 72,560 owned by the Company.
z 7,200 shares unissued.
1 4,000 shares unissued.
2 First issue of 60,000, of which 10,411 unallotted.
3 5,000 shares unissued.
4 4,480 shares unissued.
5 5,000 shares unallotted.
6 1,616 shares unallotted.
7 75,000 shares unissued.
8 14,000 shares unissued.
9 17,000 shares unissued.
10 40,453 shares actually issued.
11 7,688 shares actually issued.
12 4,200 shares unissued.
13 500 shares unissued.
14 399 shares unissued.
15 22,277 shares unissued.
16 10,000 shares unissued.
17 Special shares are entitled to half of the profits.
18 Capital contributed by Chinese Government-Kuping Tls. 5,000,000.
19 12,000 issued only.
20 Typhoon and Floods Insurance Fund.
21 Special Cash Reserve.
22 1000 shares unissued.
23 10,000 shares unissued.
24 4595 part paid shares.
25 7,500 shares unissued.
26 10,000 shares unissued.
27 2,350 shares unissued.
28 25,000 shares unissued.
29 10,000 shares unissued.
30) 3,700 fully paid vendor shares and an option of 5,000 shares at par for 5 years granted to option holders.
*Based on last year's dividend.
** Based on present dividend.
§ 216 held by the Company.
‖ Only Tls. 134,000 taken up.
¶ In certificates of £20 and £100.
‡ Redeemable in 10 years, or at option of Comp., the Company giving 6 months notice.
† Redeemable at par at rate of £10,000 per annum from 31st December 1903 to 31st December 95.
*** Redeemable at par on 30th June, 1915.
Dr. Deficit.
†† Singapore dollars.
‡‡ 4,880 shares unissued.
× 16,756 shares unissued.
§§ 25,000 shares unissued.
4140 shares unissued.

# ADDITIONAL SHANGHAI SHARE QUOTATIONS

**September 28, 1910**

| STOCK | CLOSING QUOTATIONS | HIGHEST AND LOWEST PRICES DURING THE WEEK | CAPITAL | NO. OF SHARES | VALUE | PAID UP | RESERVE | LAST DIVIDEND | WHEN PAID |
|---|---|---|---|---|---|---|---|---|---|
| Oriental Consolidated Mining Co., Ltd...... | 35[10 | | G. $5,000,000 | 500,000 | G. $10 | G. $10 | none | Interim of Gold 50 for 1910......... | June. 10, 1910 |
| Vulcan Iron Works, Limited.... | Tls. 40 | | Tls. 500,000 | 1,000 | Tls. 500 | Tls. 500 | — | Tls. 50 for year ended 31.8.06...... | Nov. 1, 1906 |
| Yangtsze Wharf & Godown Co. Limited........................ | Tls. 207 | | Tls. 250,000 | 2,500 | Tls. 100 | Tls. 100 | Tls. 50,000 | Tls. 15 for 1909.............................. | April 1, 1910 |
| Wei-hai-wei Land & Building Co., Limited.................... | Tls. 9 nominal | | Tls. 91,850 | 3,674 | Tls. 25 | Tls. 25 | — | Interim of $2.00 for 1909............ | Aug. 8, 1909 |
| Anglo-German Brewing Co., Limited........................... | $85 buyers | | $100,000 | 4,000 | $100 | $100 | none | 5% for 1909........................... | Mar. 12, 1910 |
| Butler Tile Works, Limited..... | Tls. 25 | | Tls. 60,000 | 1,200 | Tls. 50 | Tls. 50 | — | Tls. 3 for year ending 31.3.09...... | June 8, 1909 |
| Major Bros., Limited...... | Tls. 55 | | Tls. 300,000 | 6,000 | Tls. 50 | Tls. 50 | — | — | — |
| Oriental Ice Company, Limited | Tls 20 | | Tls. 130,000 | 2,600 | Tls. 50 | Tls. 50 | — | First year.......................... | — |
| Scharffs Oil and Bone Mills, Ltd. | Tls. 40 | | Tls. 200,000 | 4,000 | Tls. 50 | Tls. 50 | — | First year.......................... | — |
| Shanghai Ice Company, Limited | Tls. 12 | | Tls. 200,000 | 8,000 | Tls. 25 | | — | 3% for 1907............................ | Mar. 14, 1908 |
| Campbell, Moore & Co., Limited | $10 | | $12,000 | 1,200 | $10 | $10 | $9,000 | $3 for 1905............................ | Apr. 2, 1906 |
| Dunning & Company, Limited. | $35 sellers | | $100,000 | 2,000 | $50 | $50 | — | $5 year ending 28.2.08...... ......... | Apr. 15, 1908 |
| J. Llewellyn & Co., Limited..... | $60 nominal | | $72,000 | 1,200 | $60 | $60 | — | 7.20 for 1909 ........................ | May 1, 1910 |
| Lane, Crawford & Company | $ 50 | | $250,000 | 2,500 | $100 | $100 | — | Final of 3% making 6% for 1908.... | June 8, 1909 |
| S. Moutrie & Company, Limited | $40 | | $250,000 | 5,000 | $50 | $50 | — | $2 for year ended March 31, 1909 | June 18, 1909 |
| Weeks & Company, Limited | $23 | | $400,000 | 20,000 | $20 | $20 | $40,000 | Final of 6% making 10% for 1909.. | June 1, 1910 |
| Dominion Rubber Co., Limited | Tls. 62½ | | Tls. 225,000 | 22,500 | Tls. 10 | Tls. 4 | — | First year.......................... | — |
| Kalumpong Rubber Co., Ltd. | Tls. 700 | | Tls. 700,000 | 14,000 | Tls. 50 | Tls. 50 | ** Tls. 11,844.48 | 16% for 1908........................ | Nov. 9, 1909 |
| Senawang Rubber Estates Company, Limited.................. | Tls. 1550 | | Tls. 250,000 | 2,500 | Tls. 100<br>Tls. 100 | Tls. 100<br>Tls. 75 | — | — | — |
| Tebong Rubber and Tapioca Estate, Limited ...... ...... | Tls. 48 | | £76,000 | 76,000 | £1 | £1 | — | — | — |
| Shanghai Mercury, Limited .... | Tls. 50 buyers | | Tls. 105,500 | 2,100 | Tls. 50 | Tls. 50 | — | Final of 6% making 16% year 1909. | June 22, 1910 |
| Shanghai Mutual Telephone Co., Limited .................. | Tls. 67½ buyers | | Tls. 675,000 | 13,500 | Tls. 50 | Tls. 50 | — | Tls. 3 for 1907.......................... | June 28, 1909 |
| China Export, Import & Lumber Company, Limited .... | Tls. 75 | | Tls. 350,000 | 500 | Tls. 100 | Tls. 50 | — | 5 p. c. for 1909...................... | May 1, 1910 |
| China Printing Co., Limited..... | Tls. | | Tls. 750,000 | 1,500 | Tls. 50 | Tls. 50 | — | 7% 1908............................... | Apr. 18, 1909 |
| Hirano Mineral Water Co., Ltd. | Y. 10 | | Y. 125,000 | 5,000 | Y. 25 | Y. 25 | — | 10%=yen 2½ for year ending 30th Sept. 08 Y. 1.20 for year ended Feb. 29.................. | Apr. 26, 1909 |
| E. E. Porter & Co., Limited.... | $50 | | $100,000 | 2,000 | $50 | $50 | — | $6 for 1907.......................... | Apr. 22, 1908 |
| Shanghai Electric & Asbestos Company, Limited ........... | $21 sellers | | $125,000 | 5,000 | $25 | $25 | — | 8% for year ended Feb. 28, 09.... | June 21, 1909 |
| Shanghai Electric Construction Company, Limited ............ | £6 sellers | £11 | £320,000 | 32,000 | £10 | £10 | — | First year.......................... | — |

# DEBENTURES

| LOANS | | PRICE—PLUS ACCRUED INTEREST | AMOUNT OF LOAN | OUTSTANDING | NOMINAL VALUE | RATE OF INTEREST | WHEN PAYABLE |
|---|---|---|---|---|---|---|---|
| Shanghai Municipal Debentures.......................... | 1892 | Tls. 92½ | Tls. 50,000 | Tls. 45,400 | Tls. 100 | 5 % | June & Dec. |
| do | 1893 | ,, 96 | ,, 125,000 | " 32,000 | " 100 | 5½ ,, | Do |
| do | 1894 | ,, 105 | ,, 105,000 | " 60,000 | " 100 | 6 ,, | Do |
| do | 1895 | ,, 92½ | ,, 115,000 | " 32,600 | " 100 | 5 ,, | Do |
| do | 1896 | ,, 92½ | ,, 140,000 | " 181,800 | " 100 | 5 ,, | Do |
| do | 1897 | ,, 92½ | ,, 268,800 | " 268,400 | " 100 | 5 ,, | Do |
| do | 1898 | ,, 105 | ,, 300,000 | " 60,000 | " 100 | 6 ,, | Do |
| do | 1900 | ,, 96 | ,, 33,900 | " 31,700 | " 100 | 5½ ,, | Do |
| do | 1901 | ,, 105 | ,, 250,000 | " 200,000 | " 100 | 6 ,, | Do |
| do | 1902 | ,, 105 | ,, 150,000 | " 150,000 | " 100 | 6 ,, | Do |
| do | 1903 | ,, 105 | ,, 490,500 | " 490,500 | " 100 | 6 ,, | Do |
| do | 1904 | ,, 105 | ,, 214,500 | " 214,500 | " 100 | 6 ,, | Do |
| do | 1905 | ,, 105 | ,, 320,000 | " 320,000 | " 100 | 6 ,, | Do |
| do | 1907 | ,, 105 | ,, 250,000 | " 250,000 | " 100 | 6 ,, | Do |
| Chinese Imperial Government Loan..................... | 1886 E | ,, 250 | ,, 767,200 | " 354,400 | " 250 | 7 ,, | Mar. & Sept |
| Shanghai Land Investment Co., Debentures.............. | 1890 | ,, 103½ | ,, 250,000 | " 250,000 | " 100 | 6 ,, | May & Nov. |
| do | 1892 | ,, 96 | ,, 250,000 | " 250,000 | " 100 | 5½ ,, | June & Dec. |
| do | 1894 | ,, 103½ | ,, 250,000 | " 250,000 | " 100 | 6 ,, | Mar. & Sept. |
| do | 1896 | ,, 92½ | ,, 250,000 | " 250,000 | " 130 | 5 ,, | June & Dec. |
| do | 1900 | ,, 103½ | ,, 250,000 | " 250,000 | " 100 | 6 ,, | April & Oct. |
| do | 1901 | ,, 104 | ,, 250,000 | " 250,000 | " 100 | 6 ,, | June & Dec. |
| do | 1901 | ,, 96 | ,, 100,000 | " 100,000 | " 100 | 5 ,, | May & Nov. |
| do | 1902 | ,, 103½ | ,, 400,000 | " 400,000 | " 100 | 6 ,, | June & Dec. |
| do | 1905 | ,, 103½ | ,, 250,000 | " 250,000 | " 100 | 6 ,, | Do |
| Shanghai Waterworks Co., Debentures................. .... | 1909 | ,, 103 | ,, 815,900 | " 815,900 | " 100 | 6 ,, | Do |
| Perak Sugar Cultivation Co., Debentures.................. | 1902 | ,, 101 | ,, 200,000 | " 200,000 | " 100 | 7 ,, | April & Oct. |
| Shanghai Gas Co., Debentures ............ ................ | 1909 | ,, 103 | ,, 800,000 | " 800,000 | " 100 | 5 ,, | Do |
| Shanghai and Hongkew Wharf Co., Debentures........... | 1902 | ,, 102 | ,, 839,100 | " 799,800 | " 100 | 6 ,, | June & Dec. |
| Astor House Co., Debentures................................. | 1905 | ,, 103 | ,, 750,000 | " 500,000 | " 100 | 7 ,, | Do |
| British Municipal Council, Hankow........................ | 1901 | Sh. ,, 105 | H'kow Tls 100,000 | H'kow Tls 100,000 | " 100 | 7 ,, | June & Dec. |
| Shanghai Club Debentures .................................. | 1907 | ,, 100 | Tls. 170,000 | Tls. 170,000 | " 100 | 6 ,, | Do |
| Country Club Debentures.......................................... | | ,, 97 | ,, 139,000 | " 139,000 | " 100 | 6 ,, | Do |
| do | 1907 | ,, 97 | ,, 92,000 | " 92,000 | " 100 | 6 ,, | Do |
| Lane Crawford & Co., Debentures............................ | 1907 | ,, 102½ | ,, 110,000 | " 110,000 | " 100 | 7 ,, | Mar. & Sept. |
| Anglo-French Land Debentures............................. | 1908 | ,, 102 | ,, 250,000 | " 250,000 | " 100 | 6 ,, | June & Dec. |
| Central Stores Ltd. Debentures.............................. | 1908 | ,, 102½ | ,, 250,000 | " 250,000 | " 100 | 8 ,, | Do |
| Shanghai Mutual Tel. Co. Debentures...... ... ........ | 1909 | ,, 102½ | ,, 350,000 | " 200,000 | " 100 | 6 ,, | Do |

# SINGAPORE SHARE QUOTATIONS

(Courtesy Messrs. Fraser & Co., Brokers, Singapore, September 28, 1910)

| Date of Formation. | Capital | Capital paid up | No. of Shares Issued | Issue Value | Paid up | Reserve | Last Dividend | Name | Buyers. | Sellers. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | **MINING** | | |
| 1903 | $300,000 | 300,000 | 30,000 | 10 | 10 | ........ | 30% for year ending 31-3-10.......... | Belat Tin Mining Co., Ltd. | 3.75 | 4.00 |
| 1907 | $300,000 | 225,000 | 22,500 | 10 | 10 | ........ | .......... | Bruang Ltd. | 5.25 | 5.50 |
| 1901 | $600,000 | 600,000 | 60,000 | 10 | 10 | 25,000 | 6% for year ending 30-4-09.......... | Bruseh Hydraulic Tin Mining Co., Ltd. | 4.00 | 5.00 |
| 1907 | $400,000 | 375,000 | 37,500 | 10 | 10 | ........ | .......... | Kanaboi, Ltd. | 2.40 | 2.60 |
| 1901 | £60,000 | 60,000 | 60,000 | 1 | 1 | ........ | 2[- interim 1909.......... | Kinta Tin Mines, Ltd. | 15.50 | 16.50 |
| 1905 | $150,000 | 99,000 | 9,900 | 10 | 10 | 6,485.68 | 35% for year ending 31-12-07.......... | Kuantan Tin Mining Co., Ltd. | .... | 3.25 |
| 1906 | £120,000 | 120,000 | 120,000 | 1 | 1 | ........ | 1[- interim 1909.......... | Lahat Mines Ltd. | 8.50 | 9.00 |
| 1906 | $450,000 | 450,000 | 45,000 | 10 | 10 | ........ | .......... | Malacca Tin Dredging Co., Ltd. | .... | 1.50 |
| 1906 | £30,000 | 30,000 | 30,000 | 1 | 1 | ........ | .......... | Malaya and Siam Corporation Ltd. | .... | 7[6 |
| 1906 | £250,000 | 179,500 | 500,000e | 5/- | 5/- | ........ | .......... | Pahang Consolidated Co., Ltd. | 5[6 | 6[6 |
| 1907 | £100,000 | 80,000 | 80,000 | 1 | 1 | ........ | .......... | Pengkalen. Ltd. | 4.75 | 5.25 |
| 1904 | £100,000 | 80,000 | 80,000 | 1 | 1 | ........ | .......... | Pusing Bahru Tin Mines, Ltd | 6.00 | 7.00 |
| 1904 | £120,000 | 100,000 | 100,000 | 1 | 1 | 6,000 | 45% for year ending 30-6-07.......... | Pusing Lama Tin Mines, Ltd. | 2.00 | 3.00 |
| 1907 | $450,000 | 300,000 | 30,000 | 10 | 10 | ........ | .......... | Rahman Hydraulic Tin, Ltd. | 9.75 | 10.25 |
| 1905 | £27,000 | 27,000 | 27,000 | 1 | 1 | ........ | 1[- for 1907.......... | Rambutan, Ltd. | 10.50 | 11.50 |
| 1892 | £200,000 | 200,000 | 200,000 | 1 | 1 | 4,873 | 1[2 paid April, 1910.......... | Raub Aust. Gold Ming. Co., Ltd. | 4.50 | 5.00 |
| 1905 | £40,000 | 40,000 | 40,000 | 1 | 1 | ........ | .......... | Redhills Tin Mining Co., Ltd. | 2.50 | 3.50 |
| 1900 | $110,000 | 110,000 | 22,000 | 5 | 5 | ........ | 3% for year ending 22-1-09.......... | Royal Johore Tin Mining Co., Ltd | 1.00 | 1.25 |
| 1907 | $550,000 | 500,000 | 50,000 | 10 | 10 | ........ | .......... | Salak South, Ltd. | 1.50 | 3.00 |
| 1907 | £80,000 | 80,000 | 80,000 | 1 | 1 | ........ | .......... | Sempam Tin Mines, Ltd. | 1.25 | 1.75 |
| 1906 | $850,000 | 850,000 | 85,000 | 10 | 10 | 25,000 | 5% interim 1909.......... | Serendah Hydraulic Tin Ming. Co., Ltd. | 5.25 | 6.00 |
| 1899 | $230,000 | 230,000 | 23,000 | 10 | 10 | ........ | 3% for ½ year ending 31-12-08.......... | Sipiau Tin Co., Ltd. | 1.50 | 2.00 |
| 1909 | $200,000 | $150,000 | 15,000 | 10 | 10 | ........ | .......... | Sungei Gau Tin Mining Co., Ltd. | .... | 4.00 |
| 1907 | £90,000 | 70,000 | 70,000 | 1 | 1 | ........ | 1[6 interim 1909.......... | Tekka, Limited. | 21 00 | 22.00 |
| 1906 | £150,000 | 150,000 | 150,000 | 1 | 1 | ........ | 1[- interim 1909.......... | Tongkah Harbour Tin Dredging Co., Ltd. | 9.75 | 10.25 |
| 1902 | £160,000 | 160,000 | 160,000 | 1 | 1 | ........ | 3[- interim 1909.......... | Tronoh Mines, Ltd. | 14.00 | 15.00 |

# SINGAPORE SHARE QUOTATIONS.—(Continued.)

| Date of Formation | Capital | Capital paid up | No. of Shares Issued | Issue Value | Paid up | Reserve | Last Dividend | Name | Buyers | Sellers |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | **STERLING RUBBER** | | |
| 1909 | £85,000 | 75,000 | 750,000 | 2/- | 2/- | | | Allagar Rubber Estates, Ltd | .... | 5/- |
| 1905 | £150,000 | 150,000 | 1,500,000 | 2/- | 2/- | | 80% for 1909 | Anglo-Malay Rub. Co., Ltd. | 1.2.9 | 1.3.9 |
| 1909 | £50,000 | 35,250 | 470,000 | 2/- | 1/6 | | | Batang Malaka Rubber Estates, Ltd. | 0/6 | 1/- p. |
| 1904 | £30,000 | 20,187 10/- | 19,000<br>4,750f | 1 | 1 | | 50% for 1909 | Batu Caves Rub. Co., Ltd. | 15.10.0 | 16.10.0 |
| 1906 | £80,000 | 70,000 | 70,000l* | 1 | 5/- | | 2½% for 1909 | Batu Tiga (Selangor) Rubber Co., Ltd. | 3.17.6 | 4.2.6 |
| 1909 | £100,000 | 74,454 | 57,816 | 1 | 1 | | | Bukit Kajang Rubber Estates, Ltd | 2.0.0 | 2.2.6 |
| | | | 22,184n* | 1 | 1 | | | " " " part paid | 1.15.0 | 1.17.6.p |
| 1907 | £30,000 | 25,500 | 24,000 | 1 | 15/- | | | Bukit Lintang Rubber Estates, Ltd. | 4.0.0 | 4.10.0 |
| | | | 6,000 | 1 | 1 | | | " " " part paid | 2.2.6 | 2.7.6p. |
| 1903 | £70,000 | 66,700 | 66,700 | 1 | 5 | 2,000 | 90% for 1909 | Bukit Rajah Rubber Co., Ltd. | 15.0.0 | 15.10.0 |
| 1906 | £35,000 | 30,000 | 30,000 | 1 | 1 | | | Castlefield (K.) R. Estate, Ltd. | 4.7.6 | 4.17.6 |
| 1909 | £225,000 | 175,000 | 1750,000 | 1 | 1 | | | Chersonese (F.M.S.) Estates, Ltd. | 3/6 | 4/- |
| 1904 | £16,000 | 16,000 | 100,000 | 2/- | 2/- | | 75% for 1909 | Cicely Rubber Estates Co., Ltd. | 1.18.0 | 2.0.0 |
| | | | 60,000 | 2/- | 2/- | | 78½% for 1909 | " " " " 5% Pref. | 1.18.0 | 2.0.0 |
| 1905 | £75,000 | 62,007 | 620,070 | 2/- | 2/- | 1,000 | 50% interim | Consolidated Malay Rub. Estates, Ltd. | 1.3.0 | 1.4.0 |
| 1906 | £110,000 | 102,500 | 102,500 | 2/- | 2/- | | 50% for 1909 | Damansara (Selangor) Rubber Co., Ltd. | 7.0.0 | 7.10.0 |
| 1903 | £600,000 | 447,200 | 447,200a | 1 | 1 | | | Duff Development Co., Ltd. | 13/-6 | 14/6 |
| 1909 | £45,000 | 40,000 | 400,000 | 1 | 1 | | 15% for 1909 | Edinburgh Rub. Estates, (Selangor) Ld. | 12/-6 | 13/6 |
| 1907 | £80,000 | 70,000 | 70,000 | 2/- | 2/- | | 25% interim | Golconda Rubber Co., Ltd. | 5.10.0 | 5.15.0 |
| 1906 | £310,000 | 305,000 | 305,000 | 1 | 1 | 8,784 | 35% for 1909 | Highlands & Lowds. Para Rub. Co., Ltd.. | 4.18.9 | 5.2.6 |
| 1904 | £50,000 | 30,000 | 30,000 | 1 | 1 | 2,500 | 25% interim | Inch Kenneth Rubber Estates, Ltd | 12.0.0 | 13.0.0 |
| 1909 | £200,000 | 143,750 | 775,000p | 1 | 1 | | | Kam. (P.) R. & T. Co., Ltd. "A" Shares | 4/-6 | 4/9 p. |
| | | | 105,000 | 2/- | 1/- | | | " " " "B" " | .... | nom. |
| 1905 | £65,000 | 65,000 | 65,000 | 1 | 1 | | 10% for 1909 | Kapar Para Rubber Estates, Co., Ltd. | 9.5.0 | 9.15.0 |
| 1909 | £35,000 | £17,250 | 95,000 | 1 | 1 | | | Kota Tinggi Johore Rubber Co., Ltd. | 2/3 | 2/6 |
| | | | 155,000 | 2/- | 2/- | | | " " " " | 0/3 | 0/6 p. |
| 1906 | £180,000 | 180,000 | 180,000 | 2/- | 1/- | | 30% interim | Kuala Lumpur Rubber Co., Ltd | 7.7.6 | 7.15.0 |
| 1907 | £100,000 | 90,000 | 900,000 | 1 | 1 | | 25% for 1909 | Labu (F. M. S.) Rub. Co., Ltd. | 14/- | 15/- |
| 1907 | £320,000 | £252,067/10/- | 198,930v | 2/- | 2/- | | 27½% for 1909 | Lanadron Rubber Estates, Ltd | 5.0.0 | 5.5.0 |
| | | | 70,850 | 1 | 1 | 3,000 | 27½% for 1909 | " " " part paid | 3.10.0 | 4.0.0 p. |
| 1908 | £125,000 | 75,000 | 60,000g* | 1 | 15/- | | 17½% for 1909 | Ledbury Rubber Estates Ltd. | 3.12.6 | 3.15.0 |
| | | | 40,000 | 1 | 1 | | 17½% for 1909 | " " " part paid | 1.17.6 | 2.0.0p. |
| 1895 | £100,000 | 98,324 8/- | 883,244w | 1 | 7/6 | 4,000 | 50% interim | Linggi Plantations Ltd., | 2.9.0 | 2.10.0 |
| | | | 10,000 | 2/- | 2/- | | 7% for 1909 | " " " 7% Pref. | .... | nom. |
| 1907 | £140,000 | 118,000 | 1,180,000k | 1 | 1 | | 12½% for 1909 | London Asiatic R. & Produce Co., Ltd.. | 10/-9 | 11/9. |
| 1909 | £220,000 | 147,500 | 50,000 | 2/- | 2/- | | | Lumut Rubber Estates, Ltd. | .... | nom. |
| | | | 150,000 | 1 | 1 | | | " " " " part paid | 15/- | 17/6 p. |
| 1906 | £400,000 | 300,000 | 185,000 | 1 | 13/- | | 10% interim for 1909 | Malacca Rubber Plants., Ltd. | 7.0.0 | 7.10.0 |
| | | | 115,000 | 1 | 1 | | " " " | " " " " 7½% Pref. | 7.0.0 | 7.10.0 |
| 1909 | £210,000 | 175,000 | 1,750,000 | 1 | 1 | | | Merlimau Rubber Estates, Ltd | 5/- | 5/6 |
| 1903 | £30,000 | 22,500 | 225,000 | 2/- | 2/- | | 125% for 1909 | Pataling Rubber Estates Synd. Ltd | 2.13.0 | 2.14.0 |
| 1906 | £85,000 | 85,000 | 850,000 | 2/- | 2/- | | 12½% interim 1909 | Perak Rubber Plantations, Ltd | 8/- | 9/- |
| 1909 | £60,000 | 36,875 | 15,000s* | 2/- | 2/- | | | Rembia Rubber Estates Ltd. | .... | nom. |
| | | | 35,000 | 1 | 1 | | | " " " 6% Cum. Pref. | 1/6 | 3/6 p. |
| 1904 | £25,000 | 19,092 | 17,732u<br>2,268 | 1<br>1 | 12/6<br>1 | | 25% interim | Sagga Rubber Company, Limited | 10.10.0 | 11.0.0 |
| 1905 | £100,000 | 100,000 | 71,378<br>28,622l‡ | 1<br>1 | 12/-<br>1 | | | Sapong Rubber and Tobacco Estates, Ltd. | 1.2.6 | 1.5.0. |
| 1907 | £100,000 | 100,000 | 100,000 | 1 | 1 | | 15% for 1909 | Seafield Rubber Co., Ltd | 6.15.0 | 7.0.0 |
| 1898 | £30,000 | 30,000 | 300,000 | 2/- | 2/- | 3,000 | 287½% for 1909 | Selangor Rubber Co., Ltd | 2.16.0 | 2.18.0 |
| 1909 | £50,000 | 32,000 | 40,000 | 1 | 16/- | | | Sendayan (F. M. S.) Rubber Co., Ltd | 1.15.0 | 2.0.0 p. |
| 1906 | £65,000 | 65,000 | 65,000 | 1 | 1 | | 7½% for 1909 | Shelford Rubber Estate, Ltd | 3.10.0 | 3.13.0 |
| 1909 | £150,000 | 78,500 | 14,000i‡<br>86,000 | 1<br>1 | 1<br>15/- | | | Sialang Rubber Estates, Ltd | 12/6 | 17/6 p. |
| 1909 | £120,000 | 100,000 | 100,000 | 1 | 1 | | | Singapore Para Rubber Estates, Ltd. | 2.17.6 | 3.0.0 |
| 1906 | £192,500 | 192,500 | 1,925,000 | 2/- | 2/- | | 17½% for year ending 31-3-10 | Straits Settlements (B.) Rub. Co., Ltd | 6/9 | 7/- |
| 1907 | £45,000 | 45,000 | 45,000 | 1 | 1 | | | Sungei Choh Rub.Estate, Co.Ltd. | 4.10.0 | 5.0.0 |
| 1906 | £110,000 | 100,000 | 1,000,000 | 2/- | 2/- | | 37½% for 1909 | Sungei Kapar Rubber Co., Ltd | 13/- | 14/- |
| 1907 | £70,000 | 55,000 | 55,000 | 1 | 1 | | | Sungei Salak Rubber Co.. Ltd | 3.10.0 | 3.15.0 |
| 1904 | £50,000 | 50,000 | 50,000 | 1 | 1 | | | Sungei Way (Selangor) Rub. Co., Ltd | 5.0.0 | 5.5.0 |
| 1908 | £150,000 | 60 000 | 36,000 | 1 | 1 | | | Tebrau (Johore) Rubber Co | 3.10.0 | 4.0.0 |
| | | | 64,000 | 1 | 7/6 | | | " " " part paid | 2.5.0 | 2.10.0p. |
| 1907 | £200,000 | 170,000 | 170,000 | 1 | 1 | | 5% interim | United Serdang (S.) R. Plantations, Ltd. | 5.0.0 | 5.10.0 |
| 1908 | £85,000 | 65,000 | 650,000 | 2/- | 2/- | | 10% for year ending 30-6-09 | United Sumatra Rubber Estates, Ltd... | 8/- | 8/6 |
| 1904 | £60,000 | 50,600 | 506,000 | 2/- | 2/- | | 250% for year ending 31-3-10 | Vallambrosa Rubber Co., Ltd. | 1.19.0 | 2.2.0 |
| | | | | | | | | **DOLLAR** | | |
| 1909 | $120,000 | 105,000 | 105,000w* | 1 | 1 | | | Alor Gajah Rubber Estate, Ltd | 1.60 | 1.80 |
| 1909 | $750,000 | 700,000 | 140,000 | 5 | 5 | | | Ayer Panas Rubber Estates, Ltd | 7.50 | 7.75 |
| 1905 | $200,000 | 151,200 | 151,200 | 1 | 1 | 5,250 | 40% interim | Balgownie Rub. Estate, Ltd | 10.50 | 11.00 |
| 1910 | $500,000 | 500,000 | 50,000 | 10 | 10 | | | Bukit Timah Rubber Estates, Ltd | 13.00 | 14.00 |
| 1910 | $750,000 | 700,000 | 70,000 | 10 | 10 | | | Changkat Serdang Estates, Ltd | 9.50 | 10.00 |
| 1909 | $300,000 | 300,000 | 300,000 | 1 | 1 | | | Glenealy Plantations, Ltd | 1.50 | 1.80 |
| 1910 | $200,000 | 144,285 | 12,857m‡ | 5 | 5 | | | Haytor Rubber States, Ltd | .... | nom. |
| | | | 20,000 | 5 | 4 | | | " " " " part paid | 1.00 | 2.00 p. |
| 1910 | $600,000 | 150,000 | 30,000 | 10 | 5 | | | Henrietta Estates, Ltd. | par. | 1.00 p. |
| 1909 | $250,000 | 200,000 | 20,000 | 10 | 10 | | | Indragiri (S.) R. and Gutta P. Co., Ltd.. | 17.00 | 17.50 |
| 1910 | $350,000 | 291,000 | 11,000 | 5 | 5 | | | Kelemak Rubber Estate, Ltd. | 3.50 | 4.00 |
| | | | 59,000 | 5 | 4 | | | " " " part paid | 2.00 | 1.50 dis. |
| | | | | | | | | Kombok Rubber Co., Ltd | 20.00 | 25.00 p. |
| 1907 | $300,000 | 140,000 | 20,000 | 10 | 7 | | | Malakoff Rubber Co., Ltd. | 2.00 | 2.25 |
| 1910 | $1,000,000 | 1,000,000 | 500,000 | 2 | 2 | | | New Singapore Rubber Co., Ltd | 6.00 | 6.50 |
| 1910 | $1,250,000 | 1,250,000 | 250,000 | 5 | 5 | | 5% interim | Pajam Limited | 11.00 | 12.00 |
| 1909 | $400,000 | 400,000 | 80,000 | 5 | 5 | | | Pantai, Limited | 1.00 | 1.10 |
| 1909 | $200,000 | 200,000 | 200,000 | 1 | 1 | | 7½% interim | Pegoh, Limited | 27.50 | 28.50 |
| 1909 | $500,000 | 450,000 | 45,000 | 10 | 10 | | | Port Dickson Rubber Co., Ltd | 13.00 | 14.00 |
| 1910 | $450,000 | 295,000 | 45,000f‡ | 5 | 5 | | | " " " | 5.00 | 6.00 p. |
| | | | 35,000 | 5 | 2 | | | Pulo Daat Plantations, Ltd. | 1.00 | 1.20 |
| 1910 | $200,000 | 150,000 | 150,000 | 1 | 1 | 20,000 | 50% interim | Sandycroft Rubber Co., Ltd | 27.50 | 29.00 |
| 1904 | $100,000 | 100,000 | 50,000b* | 2 | 2 | | 25% interim | Singapore & Johore Rub. Co. Ltd | 12.00 | 12.50 |
| 1903 | $450,000 | 417,300 | 208,650 | 2 | 2 | | | St. Helena Rubber Coy., Ltd | 28.00 | 30.00 |
| 1909 | $250,000 | 100,000 | 10,000 | 10 | 10 | | | Teluk Anson Rubber Estate, Ltd. | 4.50 | 5.00 |
| 1909 | $200,000 | 165,000 | 33,000 | 5 | 5 | | | United Singapore Rubber Estates, Ltd.. | 1.00 | 1.25 |
| | | | | | | | | " " " " " | .... | nom. |
| 1909 | $1,000,000 | 637,500 | 737,500y* | 1<br>1 | 1<br>-/50 | | | | | |
| | | | | | | | | **GENERAL** | | |
| 1903 | £400,000 | 400,000 | 400,000 | 1 | 1 | | | Singapore Electric Tramways, Co., Ltd.. | 2/6 | 3/6 |
| 1907 | $1,500,000 | 1,065,150 | 25,000d* | 10 | 10 | | 10% for year ending 31/12/08 | Eastern Smelting Co. Ltd. | .... | 10.00 n. |
| | | | 116,450 | 10 | 7 | | 10% for year ending 31-12-08 | " " " part paid | .... | 6.00 n |
| 1898 | $360,000 | 360,000 | 36,000 | 10 | 10 | 170,000 | 15% & 5% bon. for yr. end. 31-12-09 | Fraser & Neave, Ltd. | 28.00 | 30.00 |
| 1905 | $2,400,000 | 2,400,000 | 18,000 | 100 | ---- | 75,000 | 2½% for year ending 31-10-08 | Howarth Erskine, Ltd. | 57.00 | 58.00 |
| | | | 6,000 | 100 | ---- | | 7% for year ending 31-10-08 | " " 7% Pref | 90.00 | 92.50 |
| 1896 | $1,000,000 | 1,000,000 | 6,000 | 100 | 100 | 40,600 | 12% for year ending 31-12-09 | Katz Brothers, Ltd. *Deferred* | .... | 125.00 |
| | | | 4,000 | 100 | 100 | | 18% " " " " 09 | " " 8% Cum. Pref | .... | nom. |
| 1901 | $34,000 | 34,000 | 3,400 | 10 | 10 | | 20% for year ending 31-10-09 | Maynard & Co., Ltd. | 20.00 | 21.00 |
| 1899 | $875,000 | 875,000 | 6,000 | 100 | 100 | 175,000 | 5% for year ending 31/12/09 | Riley, Hargreaves & Co., Ltd | 80.00 | 82.50 |
| | | | 2,750 | 100 | 100 | | 7% for year ending 31/12/09 | " " " " 7% Pref | 102.00 | .... |
| 1897 | £3,500,000 | 3,500,000 | 2,500,000 | 1 | 1 | 1,120,000 | 22½% for 1909 | Shell Transport and Trading Co., Ltd | 4.0.0 | 4.2.6 |
| | | | 100,000 | 10 | 10 | | | " " " " " Pref. | 11.5.0 | 12.0.0 |
| 1903 | $600,000 | 250,000 | 25,000n | 10 | 10 | | 12½% for year ending 30-6-10 | Singapore Cold Storage Co., Ltd | 19.00 | 20.00 |
| 1891 | $30,000 | 30,000 | 600 | 50 | 50 | 23,000 | 10% for year ending 31-7-09 | Singapore Dispensary Ltd. | 50.00 | 52.50 |
| 1884 | $200,000 | 200,000 | 2,000 | 100 | 100 | 75,000 | 15% for year ending 31-12-09 | Straits Ice Co., Ltd | 160.00 | 165.00 |
| 1890 | $1,000,000 | 623,000 | 4,980 | 100 | 100 | | 5% interim | Straits Steam Ship Co., Ltd.. | 190.00 | 200.00 |
| | | | 2,500 | 100 | 50 | 760,000q | | " " " " part paid | 50.00 | 60.00 p. |
| 1887 | $3,000,000 | 3,000,000 | 300,000 | 10 | 10 | 130,000r<br>1,222,409 | 10% & 5% bon. for half yr. end. 31/3/10 | Straits Trading Co., Ltd | 56.50 | 57.00 |
| | | | | | | | | **DEBENTURES** | | |
| | | | | | | | | Howarth Erskine, Ltd. 6% $600,000 | .... | par. |
| | | | | | | | | Riley, Hargreaves & Co., Ltd. 6% 284,000 | 1% | 3% p. |
| | | | | | | | | Singapore Electric Tramways, Co., Ltd. 5% £350,000 | .... | .... |
| | | | | | | | | Singapore Municipal 5% 1,878,000 | .... | nom. |
| | | | | | | | | " " 4½% of 1907 1,600,000 | 6% | 7% p. |
| | | | | | | | | " " 4½% of 1909 1,000,000 | 7% | 8% p. |
| | | | | | | | | " " 4% 602,900 | .... | 7% dis. |

a { 152,800 unissued; 43,949 6% debenture
e { 54,500 £1 Prefs. issued; 45,500 £1 " unissued; 100,000 5/- Ord. "
f 6,250 unissued
k £40,000 6% Debentures 220,000 unissued

p 175,000 unissued "A" shares
q Sundry Reserves.
r "
u 5,000 issued £1 prem.
v 50,220 unissued
w 16,756 "

b* 221 7½% Debentures
d* 8,550 unissued
g* 25,000 "
l* £10,000 Convertible 6% Debentures issued; £10,000 do. unissued
n* 20.000 unissued

y* 262,500 "
s* 10,000 "
i‡ 50,000 "
l‡ 6% Deb. Stock Convertible.
m‡ 7,143 unissued.

# YOKOHAMA SHARE QUOTATIONS

COURTESY A. C. HUTTON POTTS, SHARE AND GENERAL BROKER, YOKOHAMA, SEPTEMBER 25TH, 1910.

| STOCKS. | CAPITAL. | NO. OF SHARES. | ISSUE VALUE. | AMOUNT PAID UP. | DATE. | LAST DIVIDEND. | FOR TERM. | CLOSING QUOTATION. |
|---|---|---|---|---|---|---|---|---|
| Brett & Co., Ltd. | -Y- 28,000 | 2,800 | -Y- 10 | -Y- 10 | 31-12-09 | 12½% | for 1 year | 15 Sellers |
| Club Hotel, Ltd. | 185,000 | 1,850 | 100 | 100 | 31-3-10 | 6% | for 1 year | 70 Nominal |
| Grand Hotel, Ltd. | 500,000 | 5,000 | 100 | 100 | 31-6-10 | 5% | for ½ year | 95 Sales. |
| Helm Bros., Ltd. | 186,000 | 3,720 | 50 | 50 | 31-12-10 | 17½% | for 1 year | 85 Buyers. |
| Langfeldt & Co., Ltd. | 100,000 | 2,000 | 50 | 50 | 31-6-09 | 6% | for ½ year | 60 Sellers. |
| C. Nickel & Co., Ltd. † | 500,000 | 20,000 | 25 | 25 | 30-10-09 | 20% | for 1 year | 50 Sellers. |
| Thwaites, Limited | 100,000 | 2,000 | 50 | 50 | First Year | — | — | 45 Sellers. |
| Yokohama Engine and Iron Works * | 500,000 | 10,000 | 50 | 50 | 31-5-09 | — | for 1 year | 55 Sales. |
| Oriental Hotel, Ltd., Ordinary | 250,000 | 3,000 | 50 | 50 | 31-8-07 | 12% | for 1 year | 50 Sales. |
| Oriental Hotel, Ltd., Preference | | 2,000 | 50 | 50 | | 8% | for 1 year | 52:50 Sales |
| The Union Estate and Investment Co., Ltd. ‡ | 1,000,000 | 10,000 | 100 | 100 | 30-9-09 | 6½% | for 1 year | 100 Nominal. |
| The Clifford Wilkinson Tansan Mineral Water Co., Ltd. § | 500,000 | 5,000 | 100 | 100 | 31-12-09 | 7% | for 1 year | 100 Buyers. |

† 285,000 unissued.
‡ 475,000 unissued.

*-Y- 390,000 issued.
§-Y- 375,800 issued.

| DEBENTURE LOANS. | AMOUNT OF LOAN. | FACE VALUE OF DEBENTURES. | RATE OF INTEREST. | INTEREST PAYABLE. | CLOSING QUOTATION. |
|---|---|---|---|---|---|
| Brett & Company, Limited | 11,500.00 | 100.00 | 7% | 1 June and 1 Dec. | 95 Sales. |
| Yokohama United Club | 230,000.00 | 100.00 | 6% | 30 June and 31 Dec. | 102 Nominal. |
| Oriental Hotel, Limited | 350,000.00 | 100.00 | 8% | 1 April and 1 Oct. | 103 Sales. |
| Union Estate and Investment Co., Limited | 250,000.00 | 100.00 | 6% | 30 June and 31 Dec. | 95 Sellers. |

| JAPANESE STOCKS. | FACE VALUE. | AMOUNT PAID UP. | LAST DIVIDEND. | DIVIDEND PAYABLE. | CLOSING QUOTATION. |
|---|---|---|---|---|---|
| **Bonds & Debentures.** | | | | | |
| Exchequer Bonds 2nd issue | -Y-100 | -Y-100 | 5% | March and Sept. | -Y- 99.70 |
| Exchequer Bonds 3rd issue | 100 | 100 | 5% | March and Sept. | ,, 99.70 |
| Railway Bonds (Ko-Gobu) | 100 | 100 | 5% | June and Dec. | ,, 101.70 |
| 4% Imperial Loan Bonds (1st issue) | 100 | 100 | 4% | June and Dec. | ,, 96.10 |
| 4% Imperial Loan Bonds (2nd issue) | 100 | 100 | 4% | March and Sept. | ,, 95.10 |
| Imperial 5% Bonds | 100 | 100 | 5% | March and Sept. | ,, 100.50 |
| Special 5% Bonds (issued 1906) | 100 | 100 | 5% | June and Dec. | ,, 101.10 |
| Yokohama Water Works Bonds | 100 | 100 | 6% | June and Dec. | ,, 105.00 |
| Yokohama City Public Loan Bonds | 100 | 100 | 6% | March and Sept. | ,, 105.50 |
| Osaka City Harbour Construction Bonds | 100 | 100 | 6% | June and Dec. | ,, 105.50 |
| Osaka City Public Loan Bonds | 100 | 100 | 6% | June and Dec. | ,, 105.50 |
| Kawasaki Dock Yards Co.'s Debentures | 100 | 100 | 7% | June and Dec. | ,, 104.00 |
| Tokyo Race Associations " | 500 | 500 | 30% | June and Dec. | ,, 180.00 |
| **Railways & Electric Trams.** | | | | | |
| Tokyo Railway Company, Limited | 50 | 50 | 5 2/5% | June and Dec. | ,, 72.70 |
| Yokohama Electric Tramway Company, Limited | 50 | 50 | 6% | July and Jan. | ,, 54.50 |
| Keihin Electric Tramway Company, Limited | 50 | 50 | 6% | June and Dec. | ,, 50.95 |
| Southern Manchurian Railway Co., Ltd. | 100 | 20 | 6% | June and Dec. | ,, 46.00 |
| Hanshin Electric Tramway Co., Ltd. | 50 | 50 | 12% | May and Nov. | ,, 130.00 |
| **Cotton Spinnings.** | | | | | |
| Kanegafuchi Cotton Spinning Company, Limited | 50 | 50 | 14% | July and Jan. | ,, 103.80 |
| Fuji Gassed-yarn Company, Limited | 50 | 50 | 14% | July and Jan. | ,, 76.60 |
| Tokyo Cotton Spinning Company, Limited | 50 | 50 | 8% | July and Jan. | ,, 42.00 |
| Imperial Hemp Weaving Company, Limited | 50 | 50 | 12% | July and Jan. | ,, 69.55 |
| Nisshin Boseki Kabushiki Kaisha | 50 | 17½ | 7% | —— | ,, 12.05 |
| **Sugar & Beer Cos.** | | | | | |
| Dai-nippon Sugar Refinery Company, Limited | 50 | 50 | ....... | May and Nov. | ,, 35.50 |
| Ensuiko Sugar Refinery Company, Limited | 50 | 20 | 20% | June and Dec. | ,, 52.00 |
| Dai-nippon Beer Company, Limited | 50 | 50 | 12% | July and Jan. | ,, 80.80 |
| Kirin Brewery Company, Limited | 50 | 50 | 7% | July and Jan. | ,, 53.00 |
| **Docks & Steamships.** | | | | | |
| Yokohama Dock Company, Limited | 50 | 33 | 12% | June and Dec. | ,, 63.50 |
| Uraga Dock Company, Limited | 50 | 50 | ....... | July and Jan. | ,, 7.50 |
| Kawasaki Dockyard Company, Limited | 50 | 50 | 12½% | Feb. and Aug. | ,, 54.00 |
| Nippon Yusen Kaisha | 50 | 50 | 10% | May and Nov. | ,, 99.90 |
| Hokkaido Tanko S. S. Company, Limited | 50 | 50 | 5% | July and Jan. | ,, 30.25 |
| **Miscellaneous.** | | | | | |
| Tokyo Electric Light Company, Limited | 50 | 50 | 12% | June and Dec. | ,, 85.70 |
| Tokyo Gas Company, Limited | 50 | 50 | 13% | July and Jan. | ,, 116.55 |
| Yokohama Union Electric Light Company, Limited | 50 | 50 | 14% | June and Dec. | ,, 113.00 |
| Fuji Paper Mills | 50 | 50 | 6% | June and Dec. | ,, 30.00 |
| Otaru Timber Company, Limited | 50 | 50 | ....... | March and Sept. | ,, 13.00 |
| Hoden Petroleum Company, Limited | 50 | 50 | 20% | April and Oct. | ,, 67.50 |
| Tokyo Rope Manufacturing Company, Limited | 50 | 50 | 18% | June and Dec. | ,, 112.00 |
| Japan Horse Improvement Company, Limited | 50 | 50 | ....... | March and Sept. | ,, 14.00 |
| Tokyo Stock Exchange Company | 50 | 50 | 15 1/5% | June and Dec. | ,, 197.50 |
| Osaka Electric Light Company, Limited | 50 | 50 | 16% | July and Jan. | ,, 102.00 |
| Kobe Electric Light Company, Limited | 50 | 50 | 14% | July and Jan. | ,, 106.00 |

# BANGKOK SHARE QUOTATIONS

(COURTESY MESSRS. EDWARDS & CO., BANGKOK, SIAM.) SEPT. 28, 1910

| NAME. | BUYERS. | SELLERS. | LAST SALES. | ESTABLISHED. | CAPITAL. | NO. OF SHARES. | ISSUE VALUE. | AMOUNT PAID UP. | RESERVE FUND | LAST DIVIDEND |
|---|---|---|---|---|---|---|---|---|---|---|
| Siam Electricity Co., Ltd. | Tcs. 300 | Tcs. 325 | Tcs. 325 | 1901 | £ 300,000 | 30,000 | £ 10— | £ 300,000 | Tcs. 491,338 | 12% Tcs. 4 bon. |
| Paknam Railway Co., Ltd | ,, 200 | ,, — | ,, 220 | 1893 | Tcs. 400,000 | 5,000 | Tcs. 80 | Tcs. 400,000 | ,, 37,566 | 14% |
| Siam Tramway Co., Ltd | ,, — | ,, — | ,, 108 | 1905 | ,, 1,450,000 | 6250 Shares<br>7250 Deb.<br>1000 P. Shares | ,, 100 | ,, 2,230,000 | ,, 1,875 | — |
| Meklong Railway Co., Ltd. | ,, 90 | ,, 100 | ,, 90 | 1907 | ,, 2,230,000 | 22,300 | ,, 100 | ,, 223,000 | ,, 28,000 | 5% |
| Bangkok Manufact. Co., Ltd. | ,, — | ,, — | ,, 182 | 1898 | ,, 400,000 | 4,000 | ,, 100 | ,, 400,000 | ,, 60,000 | 7% per for 6 months |
| Bangkok Dock Co., Ltd | ,, — | ,, 135 | ,, 135 | 1865 | ,, 1,000,000 | 10,000 | ,, 100 | ,, 950,000 | ,, 220,000 | |
| Siam Steam Packet Co. | ,, 80 | ,, 909 | ,, 90 | 1898 | ,, 190 000 | 3,800 | ,, 50 | ,, 190,000 | ,, 34,000 | 5% |
| Siam Commercial Bank | ,, 1,000 | ,, 1,500 | ,, 1,000 | 1906 | ,, 3,000,000 | 3,000 | ,, 1,000 | ,, 3,000.000 | ,, 338,850 | 4% for 6 mos. |
| Menam Motor Boat Co. | ,, 75 | ,, 90 | ,, 90 | 1905 | ,, 200,000 | 2,000 | ,, 100 | ,, 200,000 | — | none |
| Transport Co., Motor | ,, — | ,, 75 | ,, 100 | 1906 | ,, 200,000 | 2,000 | ,, 100 | ,, 200,000 | — | — |
| Jenderata Rubber Co.* | ,, — | ,, 325— Ticals | ,, 325 (for six calls) | 1906 | £ 40,000 | 4,000 | £ 10 | £ 7.-paid | — | — |
| Bagan Rubber Co. | ,, — | ,, 100 | ,, 100 | 1907 | Tcs. 300,000 | 3,000 | Tcs. 100 | Tcs. 40 per share | — | — |
| Siam Steam Navigation Co., Ltd. | ,, 300 | ,, 325 | ,, — | 1909 | ,, 2,000.000 | 10,000 | ,, 200 | — | ,, 10,000 | — |
| Siam Stone Works, Ltd. | ,, — | ,, — | 100 | 1909 | ,, 350,000 | 3,500 | ,, 100 | ,, 350,000 | — | 6% half year |
| Kombok Rubber Co | ,, 25 | ,, 35 | 32 | 1906 | $ 300,000 | 30,000 | $ 100 | $7, per Share | — | — |

# PHILIPPINE SHARE REPORT

COURTESY B. A. GREEN, GENERAL SHARE, BOND AND INVESTMENT BROKER.—*Manila, P. I., October 10, 1910.*

| NAME | CLOSING QUOT'N | WHEN INCORPORATED | AUTHORIZED CAPITAL | ISSUE VALUE OF SHARES | NUMBER OF SHARES | NUMBER OF SHARES SUBSCRIBED | PAID UP | RESERVE FUND | WORKING ACCOUNT | DATE | LAST DIVIDEND |
|---|---|---|---|---|---|---|---|---|---|---|---|
| American Drug Store | ...... .. | 1908 | ₱ 100,000 | ₱1,000 | 100 | 51 | ₱1,000 | ₱5,000 | ₱ 50,000 | June 30, 1910. | ........ |
| Antamok Valley Mining Co | ₱0.40 | 1909 | 500,000 | 1 | 500,000 | 320,000 | 1 | .... . | ........ | ........ | First year |
| Banco Español Filipino | ₱235. | 1851 | 3,000,000 | 200 | 15,000 | 12,980 | 200 | 408,715 | ........ | July 1, 1910. | 5% First Half 1910 |
| Bayhay Valley Oil Co | 100. | 1909 | 100,000 | 100 | 1,000 | .......... | 100 | ...... | ........ | ........ | First year |
| Benguet Commercial Co | 85. | 1908 | 200,000 | 100 | 2,000 | 736 | 100 | ...... | ........ | ........ | 8% for 1906 |
| Benguet Consolidated Mining Co | 0.65 | 1903 | 2,000,000 | 2 | 1,000,000 | 495,000 | 2 | ...... | ........ | ........ | ........ |
| Bua Mining Co. | | | | | | | | | | | |
| Common | 90. | 1905 | 750,000 | 100 | 7,000 | 3,366 | 100 | ...... | ........ | ........ | ........ |
| Preferred | 140. | | | 100 | 500 | 500 | 100 | ...... | ........ | ........ | ........ |
| Cadwallader-Gibson Lumber Co | ........ | 1908 | 1,000,000 | 100 | 10,000 | 8,650 | 100 | ...... | ........ | ........ | ........ |
| Camote-Clayton Mining Co | ........ | 1909 | 400,000 | 10 | 40,000 | 26,000 | 10 | ...... | ........ | ........ | First year |
| Compania Maritima | 50. | 1894 | 510,000 | 100 | 5,100 | 5,100 | 100 | ...... | ........ | ........ | 20% for 1902 |
| East Batan Coal Mining Co | 33. | 1909 | 3,000,000 | 50 | 60,000 | 40,000 | 50 | ...... | ........ | ........ | First year |
| El Varadero de Manila | 70. | 1885 | 450,000 | 100 | 4,500 | 4,500 | 100 | ...... | ........ | ........ | 3½% for 1909 |
| Electrical Supply Co | ........ | 1909 | 100,000 | 100 | 1,000 | 280 | 72 | ...... | ........ | ........ | First year |
| Export & Import Lumber Co | ........ | 1908 | 200,000 | 200 | 1,000 | 1,000 | 200 | ...... | ........ | ........ | ........ |
| Escolta Press Inc | 105. | 1907 | 50,000 | 100 | 500 | 320 | 100 | ...... | ........ | ........ | 12% for 1909 |
| Fabrica de Hielo de Manila | 62. | 1894 | 350,000 | 50 | 7,000 | 7,000 | 50 | ...... | ........ | ........ | 3% for 1st Qt. 1910 |
| Germinal Cigar Factory | 500. | 1900 | 1,500,000 | 500 | 3,000 | 3,000 | 500 | ...... | ........ | ........ | 12% for 1909 |
| H. E. Heacock & Co | ........ | 1909 | 100,000 | 100 | 1,000 | 800 | 100 | ...... | ........ | ........ | First Year |
| Headwaters Mining Co | 10. | 1908 | 600,000 | 10 | 60,000 | 59,800 | 10 | ...... | ........ | ........ | ........ |
| Insular Lumber Co | 140. | 1907 | 2,000,000 | 200 | 10,000 | 9,000 | 200 | ...... | ........ | ........ | ........ |
| Lepanto Mining Co | ........ | 1906 | 1,000,000 | 100 | 10,000 | 8,000 | 100 | ...... | ........ | ........ | ........ |
| Juan Seiboth Co | ........ | 1908 | 150,000 | 20 | 7,500 | 500 | 20 | ...... | ........ | ........ | ........ |
| La Concha Button Factory | 90. | 1905 | 75,000 | 100 | 750 | 530 | 100 | ...... | ........ | ........ | 15% for 1909 |
| Los Banos Improvement Co | 200. | 1908 | 100,000 | 200 | 500 | 500 | 200 | ...... | ........ | ........ | 16% for 1908 |
| Lambert, Springer Co | ........ | 1908 | 200,000 | 1,000 | 200 | 80 | 1,000 | ...... | ........ | ........ | ........ |
| Luzon Stevedoring Co | 25. | 1909 | 250,000 | 25 | 10,000 | 4,200 | 25 | ...... | ........ | ........ | ........ |
| Luzon Sugar Refining Co | ........ | 1882 | 700,000 | 100 | 7,000 | 7,000 | 100 | ...... | ........ | ........ | 3% for 1907 |
| Manila Electric Ry. & Light Co | 125. | 1903 | 12,000,000 | 200 | 60,000 | .......... | 200 | ...... | ...... | ........ | 4% for 1909 |
| Manila Hotel Co | 100. | 1909 | 400,000 | 100 | 4,000 | 3,500 | 100 | ...... | ........ | ........ | Under Construction |
| Minas Carbon de Batan | 240. | 1902 | 1,000,000 | 200 | 5,000 | 1,523 | 200 | ...... | ........ | ........ | ........ |
| Mindanao Herald Publishing Co | ........ | 1907 | 15,000 | 100 | 150 | 75 | 100 | ...... | ........ | ........ | ½% for 1908 |
| Paracale Gold Dredging Co | 15. | 1907 | £10,000 | £1 | 10,000 | 10,000 | £1 | ...... | ........ | ........ | £1 for 1908-9 |
| Paracale Ext. Gold Dredging Co | 10. | 1909 | ₱450,000 | ₱10 | 45,000 | .......... | ₱10 | ...... | ........ | ........ | First Year |
| Palomar Park Amusement Co | 0.25 | 1908 | 300,000 | 1 | 300,000 | .......... | 1 | ...... | ........ | ........ | ........ |
| Phil. Hemp Machine Co | ........ | 1908 | 1,000,000 | 100 | 10,000 | .......... | 100 | ...... | ........ | ........ | ........ |
| Philippine Publishing Co | 120. | 1907 | 600,000 | 200 | 3,000 | 2,187 | 200 | ...... | ........ | ........ | 10% interim for 1910. |
| Philippine Co., Ltd | 10. | 1904 | 750,000 | 10 | 75,000 | 75,000 | 10 | ...... | ........ | ........ | ........ |
| Philippine Gold Dredging Co | 10. | 1907 | 200,000 | 10 | 20,000 | 20,000 | 10 | ...... | ........ | ........ | ........ |
| Philippine Rosin & Turpentine Co. | ........ | 1908 | 150,000 | 1 | 150,000 | 70,000 | 1 | ...... | ........ | ........ | ........ |
| Philippine Exploration Co | 700. | 1908 | 2,000,000 | 10 | 200,000 | 120,000 | 10 | ...... | ........ | ........ | ........ |
| Port Banga Lumber Co | ........ | 1908 | 100,000 | 100 | 1,000 | 934 | 100 | ...... | 40,000 | Oct 1, 1910. | ........ |
| Rosenstock Publishing Co | ........ | 1908 | 75,000 | 10 | 7,500 | 6,000 | 10 | ...... | ........ | ........ | ........ |
| San Nicolas Iron Works | 100. | 1901 | 300,000 | 500 | 600 | 600 | 500 | ...... | ........ | ........ | 15% for 1903 |
| San Mauricio Gold Mining Co | 35. | 1908 | 4,000,000 | 200 | 20,000 | 20,000 | 200 | ...... | ........ | ........ | ........ |
| Sanitary Steam Laundry | 23.50. | 1908 | 100,0000 | 20 | 5,000 | 3,000 | 20 | ...... | ........ | ........ | ........ |
| Tarlac Railway Co | 65. | 1906 | 150,000 | 100 | 1,500 | 1,500 | 100 | ...... | ........ | ........ | ........ |
| Tumbaga Mining Co | 15. | 1909 | 1,000,000 | 40 | 25,000 | 24,125 | 40 | ...... | ........ | ........ | First Year |
| Union Hemp Machine Co | ........ | 1909 | 50,000 | 10 | 5,000 | 2,600 | 10 | ...... | ........ | ........ | First Year |
| Walter E. Olsen Co | 100. | 1909 | 500,000 | 100 | 5,000 | 2,033 | 100 | ...... | ........ | ........ | First Year |
| Zamboanga Cold Storage Co | 125. | 1903 | 40,000 | 100 | 400 | 200 | 100 | ...... | ........ | ........ | 20% for 1909 |

# PHILIPPINE BONDS

| | DATED | AUTHORIZED | ISSUED | OUTSTANDING | PAR VALUE | RATE OF INT. | WHEN PAYABLE | LAST QUOTATION |
|---|---|---|---|---|---|---|---|---|
| Philippine Friar Land Bonds | Feb. 1st, 1904 | $7,000,000 | $7,000,000 | $7,000,000 | $ 100 | 4% | Feb. 1, 1914 | 104[illegible] |
| Public Works and Permanent Improvement Bonds | March 1, 1905 | $5,000,000 | $2,500,000 | $2,500,000 | $ 100 | 4% | March 1, 1915 | 104[illegible] |
| Do. | Feb. 1, 1906 | .......... | $1,000,000 | $1,000,000 | $ 100 | 4% | Feb. 1, 1916 | 104[illegible] |
| Manila Sewer and Water Works Improvement Bonds | June 1, 1905 | $4,000,000 | $1,000,000 | $1,000,000 | $ 100 | 4% | June 1, 1915 | 104[illegible] |
| Do. | Jan. 2, 1907 | .......... | $2,000,000 | $2,000,000 | $ 100 | 4% | Jan. 2, 1917 | 104[illegible] |
| Philippine Railway First Mortgage Four per cent Thirty Year Sinking Fund Gold Bonds | July 1, 1907 | $15,000,000 | $5,736,000 | $5,736,000 | $1000 | 4% | July 1, 1937 | 97 |

*Payment of interest guaranteed until maturity or redemption by the Philippine Government.

## *Professional Cards*

**CEMENT TESTS**

**Made according to the latest British Standard Specification, or to any other, as required : : : :**

**COAL TESTS**

**Ordinary tests. Caloriphic value. Elementary analysis**

**MINING INSTITUTE AND ANALYTICAL LABORATORY**

**Dr. LIVIO SILVA**

EXAMINATIONS AND REPORTS FOR FINANCING

CABLE ADDRESS: "YOUNGENG" NEW YORK

**C. G. Young**

Engineering and Construction, Steam and Electric Railways, Public Utilities and Industrials, REPORTS for FINANCING.

IN ANY PART OF THE WORLD -:- SIXTY WALL ST., NEW YORK

# ALPHABETICAL LIST OF ADVERTISERS


| Advertiser | Page |
|---|---|
| Ackley Adjustable Brake Co. | 32 |
| Alhambra Cigar & Cigarette Factory | 31 |
| American Asiatic S. S. Co | 31 |
| American Hardware & Plumbing Co | 23 |
| Anderson & Co., Wm. H | 41 |
| Anderson, Meyer & Co | 30 |
| Arnhold Karberg & Co | 19 |
| Astor House Hotel Co | 51 |
| Baldwin Locomotive Works | 32 |
| Banco Español Filipino | Cover |
| Bell, David W | 18 |
| Bohler Bros & Co | 57 |
| British American Tobacco Co., Ltd. | 35 |
| Cadwallader-Gibson Lumber Co | 28 |
| California-Manila Lumber Co | 21 |
| Carmichael & Clarke | 10 |
| Chee Hsin Cement Co., Ltd | 42 |
| China Import Export Lumber Co. | 57 |
| China Merchants Steam Nav. Co | 38 |
| China Mutual Life Insurance Co | 55 |
| China and Manila S. S. Co | 31 |
| Chinese Eng. & Mining Co | Cover |
| Chinese Eastern Railway | 16 |
| Cia. General de Tabacos Filipinas. | 36 |
| Cia. Trasatlantica | 38 |
| Clarke, M. A | 44 |
| Cook's Sons, Adam | 57 |
| Defiance Machine Works | 20 |
| Derham Bros | 23 |
| Detroit Engine Works | 29 |
| Deutsch-Asiatische Bank | 1 |
| Dickeson, Jones & Co | 43 |
| Dollar, Co., The Robert | 39 |
| Earnshaw, M. & Co., Inc | 7 |
| East Asiatic Dredging Co | 27 |
| Eastern Engineering Co | 5 |
| Electrical Supply Co. Inc | 60 |
| Export and Import Lumber Co | 23 |
| Fearon, Daniel & Co | 13-30 |
| Fairbanks Morse & Co | 5 |
| Ferro Machine & Foundry Co | 29 |
| Fox Typewriter | 33 |
| Fressel, C. & Co | 24 |
| Fushun Coal | 3 |
| Gardner Governor Co | 32 |
| General Electric Co | 20 |
| Germann & Co., Ltd | 28 |
| Germinal Cigar Factory | 35 |
| Gordon & Co | 4 |
| Grand Rapids Gas Engine & Yacht Co | 29 |
| Gray Motor Co | 29 |
| Green Island Cement Co., Ltd | 40 |
| Greilsammer Bros | 24 |
| Han-yeh-Ping Iron & Coal Co. Ltd. | 59 |
| Hanyang Iron & Steel Works | 61 |
| Harvey, Stuart S. | 45 |
| Hongkong Rope Mfg. Co., Ltd | 31 |
| Hongkong & Shanghai Banking Corp | Cover |
| Hongkong & Whampoa Dock Co., Ltd. | 10 |
| Honolulu Iron Works Co | 56 |
| Hotel de France | 57 |
| Hupeh Cement Co | 42 |
| Imperial Hotel, Ltd | 52 |
| International Correspondence Schools | 13 |
| International Cold Stores, Ltd | 41 |
| International Banking Corp | Cover |
| Jardine, Matheson & Co | 25 |
| Kawasaki Dockyard Co. Ltd | 7 |
| Kiangnan Dock & Engineering Works | 8 |
| La Parisien Carriage Factory | 34 |
| Lambert-Springer Co | 60 |
| Lodge & Shipley Machine Tool Co. | 27 |
| Malthoid | 60 |
| Melchers & Co | 10 |
| Michigan Steel Boat Co | 58 |
| Mitsu Bishi Dockyard & Eng. Works | 6 |
| Mitsui Bussan Kaisha | 5-47 |
| Morse & Son, A. J | 150 |
| Murray, Wilbur H. Mfg. Co | 34 |
| New Metropole Hotel | 52 |
| New Engineering and Shipbuilding Works, Ltd | 11 |
| Nicholson, C. S | 6 |
| Nippon Yusen Kaisha | 39 |
| North British Locomotive Co. Ltd. | 49 |
| Olsen & Co., Walter E | Cover |
| Pacific Mail S. S. Co | 37 |
| Pacific Tank and Pipe Co | 60 |
| Paraffine Paint Co | 62 |
| Penberthy Injector Co | 32 |
| Philippine Islands | 2 |
| Port Banga Lumber Co | 24 |
| Racine, Ackermann & Co | 41 |
| Remington Typewriter Co | 33 |
| Rose, Downs & Thompson, Ltd | 46 |
| Russo-Chinese Bank | 1 |
| San Miguel Brewery | 4 |
| Santa Mesa Rope Works | 13 |
| Schuchardt & Schütte, Berlin | 43 |
| Shanghai Dock & Eng. Co., Ltd | 12 |
| Shanghai Electric and Asbestos Co., Ltd | 46 |
| Shanghai Gas Co., Ltd | 28 |
| Shanghai Nanking Railway | 15 |
| Shanghai Machine Co | 26 |
| Shanghai Waterworks Co. Ltd | 50 |
| Shewan, Tomes & Co | 48 |
| Siemens Schuckert | 17 |
| Siemssen & Co | 22 |
| Southern Pacific Co | 47 |
| South Manchuria Railway Mining Dept | 3 |
| South Manchuria Railway | 14 |
| Stevenson & Co., Ltd., W. F | 10 |
| Strong, Frank L | 45 |
| Superior Wrench Co | 29 |
| Swift & Co | 32 |
| Taikoo Dockyard and Engineering Company of Hongkong, Ltd | 9 |
| Thompson F. H | 51 |
| Toyo Kisen Kaisha | 37 |
| Truscott Boat Mfg. Co | 50 |
| Trussed Concrete Steel Co | 33 |
| Tsingtauer Werft | 54 |
| United States Steel Products Export Co | 52 |
| Vander Loo & Co. F. A | 31 |
| Vulcan Iron Works | 34 |
| Vulcan Iron Works Ltd | 13 |
| Warner Barnes & Co., Ltd | 21 |
| Wen Ming Press | 26 |
| White & Co. (Inc.), J. G | 58 |
| Western Electric Co | 55 |
| Westinghouse Brake Co., Ltd | 43 |
| Wood Waste Distilleries Co | 43 |
| Woosung Car Shops | 53 |
| W. T. Henley's Telegraph Work Co., Ltd | 18 |
| Ynchausti & Co | 27 |
| Yokohama Specie Bank | 1 |
| Young, C. G | 149 |
| Zimmerman Steel Co | 58 |


## Classified advertisers' Directory

*(Please mention this journal)*

**AGRICULTURAL IMPLEMENTS**
Anderson & Co., W. H.
Germann & Co., Ltd.

**ALCOHOL DISTILLERS**
Cia. General de Tabacos de Filipinas.
Ynchausti & Co.
Wood Waste Distilleries Co

**ASBESTOS GOODS**
Shanghai Electric & Asbestos Co., Ltd.

**BANKS**
Deutsch-Asiatische
Hongkong and Shanghai Banking Corp.
International Banking Corp.
Banco Español Filipino
Russo-Chinese Bank
Yokohama Specie Bank, Ltd.

**BOILER MAKERS**
Babcock & Wilcox (D. W. Bell)

**BOILERS (PATENT WATER TUBE STEAM)**
General Electric Co.
Jardine Matheson & Co.

**BREWERIES**
San Miguel Brewery

**BRIDGE-BUILDERS**
Atlantic, Gulf and Pacific Co
White & Co., Inc., J. G.

**BROKERS, GENERAL**
C. S. Nicholson

**BUILDING MATERIALS**
California-Manila Lumber Com. Co.
Malthoid Paraffine Paint Co.
W. H. Anderson & Co.
Samuel McGregor & Co.

**CABLES, TELEPHONE, TELEGRAPH SUPPLIES**
David W. Bell
W. T. Henley's Telegraph Works Co., Ltd.
Melchers & Co.

**CARRIAGES**
Wilbur H. Murray Mfg. Co.

**CEMENT**
Anderson & Co., W. H.
Chee Hsin Cement Co., Ltd.
Chinese Engineering and Mining Co., Ltd.
Green Island Cement Co., Ltd.
Racine, Ackermann & Co.

**CIGAR AND CIGARETTE MANUFACTURERS**
Alhambra Cigar & Cigarette Factory.
Castle Bros.-Wolf & Sons
Cia. Gral. de Tabacos de Filipinas
Germinal Cigar Factory
Olsen & Co., Walter E.

**CIVIL ENGINEERS**
Eastern Eng. Co.
C. G. Young

**COAL DEALERS**
Chinese Engineering and Mining Co., Ltd.
The Mitsui Bussan Kaisha
South Manchuria Railway Co.
The Han-Yeh-Ping Iron & Coal Co. Ltd.

**COAL HANDLING MACHINERY**
Atlantic, Gulf & Pacific Co.

**COFFEE DEALERS (WHOLESALE)**
M. A. Clarke (Mayon)

**CONTRACTORS, (GENERAL)**
Bohler Bros. & Co.
Frank L. Strong
Germann & Co., Ltd.
Gordon & Co.
Lambert-Springer Co.
Siemssen & Co.
White, & Co. Inc., J. G.

**CONTRACTORS, ELECTRICAL**
Arnhold, Karberg & Co.
Electrical Supply Co. Inc.
Germann & Co., Ltd.
Shanghai Electric & Asbestos Co., Ltd.
Shewan Tomes & Co.
Frank L. Strong
Siemens Shuckert
Siemssen & Co.

**CONSULTING ENGINEERS**
Carmichael & Clarke.
Germann & Co., Ltd.
White & Co., Inc. J. G.
C. G. Young

**DIVING APPARATUS**
A. J. Morse & Son

**DREDGERS**
Dickeson, Jones & Co.
Melchers & Co.
Rose, Downs & Thompson, Ltd.

**DRY CELLS**
F. H. Thompson.

**EDUCATIONAL**
I. C. S. Correspondence Schools.

**ELECTRIC LIGHTING PLANTS**
Anderson Meyer & Co.
Arnhold, Karberg & Co.
Electrical Supply Co. Inc.
Fearon, Daniel & Co.
General Electric Co.
Germann & Co., Ltd.
Siemens Shuckert
Siemssen & Co.
Shewan, Tomes & Co.
Western Electric Co.

**ELECTRICAL SUPPLIES**
Anderson Meyer & Co.
Arnhold Karberg & Co.
Electrical Supply Co. Inc.
Jardine, Matheson & Co.
Babcock & Wilcox (D. W. Bell)
Belliss & Morcom (D. W. Bell)
Fearon, Daniel & Co.
General Electric Co.
Melchers & Co.
Shanghai Electric & Abestos Co. Ltd.
Shewan, Tomes & Co.
Siemens Shuckert
Siemssen & Co.
Western Electric Co.

**ENGINES (PUMPING)**
Belliss & Morcom (D. W. Bell)
Siemssen & Co.

**EXCAVATORS AND ELEVATOR**
Dickeson, Jones Co.
Rose, Downs & Thompson, Ltd
Siemssen & Co.

**EXPLOSIVES**
Jardine Matheson & Co.

**FIBRE MACHINERY**
Dailey, C. E.

**FOOD PRODUCTS**
Anderson & Co., W. H.
Swift & Co.

**GAS. ENGINES**
Fairbanks, Morse & Co.
Castle Bros.-Wolf & Sons
Detroit Engine Works
Shanghai Gas Co., Ltd.
Truscott Boat Mfg. Co.
Melchers & Co.

**HARDWARE**
Springer-Lambert Co.

**HOTELS**
Astor House Hotel Co.
Hotel St. Francis
Tokyo Imperial Hotel
New Metropole Hotel

**ICE MACHINERY**
Vulcan Iron Works
Melchers & Co

**INJECTORS**
Penberthy Injector Company.

**INSURANCE**
Stevenson & Co., Ltd., W. F.

**JOURNALS, SCIENCE**
The Philippine Journal of Science

**LIFE INSURANCE**
China Mutual Life Insurance Co., Ltd.
Shanghai Life Insurance Co., Ltd.

**LITHOGRAPHERS**
The Wen Ming Press.

**LUMBER DEALERS**
Cadwallader-Gibson Lumber Co.
California-Manila Lumber Com. Co.
Robert Dollar Co.
Export and Import Lumber Co.
Jardine, Matheson & Co.
Port Banga Lumber Co.

**MACHINERY MERCHANTS**
Anderson, Meyer & Co.
Arnhold Karberg & Co.
Shanghai Machine Co.
Fearon, Daniel & Co.
Frank L. Strong
Stuart S. Harvey
Siemssen & Co.
Schuchardt & Schutte.

**MARINE ENGINES**
Fairbanks Morse & Co.
Truscott Boat Mfg. Co.
Grand Rapids Gas, Engine & Yacht Co.

**MILL MACHINERY**
Rose, Downs & Thompson Ltd.

**MINING MACHINERY**
Germann & Co., Ltd.
Melchers & Co.
Shewan, Tomes & Co.
Siemssen & Co

**MINING COMPANIES**
Chinese Engineering & Mining Co.
South Manchuria Railway Co.
Mitsui Bussan Kaisha

**MOTORS**
Grand Rapids Gas, Eng. & Yacht Co.
The Gray Motor Co.
The Ferro Machine & Foundry Co.

**MOTOR LAUNCHES**
Earnshaw, M. & Co.
Gas Engine & Power Co. and Charles L. Seabury & Co (Consolidated)
Fairbanks, Morse & Co.
Michigan Steel Boat Co.

**OFFICE FURNITURE**
Cadwallader-Gibson Lumber Co.

**PAINTS OILS AND VARNISH**
F. A. Vander Loo & Co.
Lambert-Springer Co.
Shanghai Electric & Asbestos Co., Ltd.
Adam Cook's Sons

**PULLEYS (STEEL)**
Schuchardt & Schütte

**PUMPS**
Shewan, Tomes & Co.
Jardine Matheson & Co.
Henry R. Worthington.
Shanghai Machine Co.
The Gardner Governor Co.

**RAILROADS**
Chinese Eastern
Shanghai-Nanking.
South Manchuria
Southern Pacific Co.

**RAILROAD SUPPLIES**
Ackley Brake Co.
Anderson, Meyer & Co.
Arnhold Karberg & Co.
Fearon, Daniel & Co.
Jardine, Matheson & Co., Ltd.
Mitsui Bussan Kaisha
Siemssen & Co.
Westinghouse Brake Co., Ltd.
Shewan Tomes & Co.
Shanghai Machine Co

**REINFORCED CONCRETE CONSTRUCTION**
Trussed Concrete Steel Co.

**ROOFING PAPER**
Malthoid

**ROPE MANUFACTURERS**
Hongkong Rope Mfg. Co. Ltd.
Santa Mesa Rope Works.
Ynchausti & Co.

**SANITARY ENGINEERING**
Gordon & Co.
Lambert-Springer Co.

**SAW MILLS**
Export and Import Lumber Co.
Insular Lumber Co.
Jardine, Matheson & Co.
Cadwallader-Gibson Lumber Co.
Port Banga Lumber Co.

**SERUM**
Bureau of Science

**SHIP-CHANDLERY**
Ynchausti & Co.

**SHIPPING AGENTS**
Castle Bros.-Wolf & Sons
Cia. General de Tabacos
Shewan, Tomes & Co.
Stevenson & Co., Ltd.
Warner, Barnes & Co., Ltd.

**SHIPBUILDING AND REPAIRS**
Tsingtauer Werft
Hongkong & Whampoa Dock Co., Ltd.
The Kawasaki Dockyard Co. Ltd.
Kiangnan Dock and Engineering Co., Ltd.
Mitsu Bishi Dock and Engineering Works
New Engineering and Shipbuilding Works, Ltd.
Shanghai Dock and Engineering Co., Ltd.
The Taikoo Dockyard and Engineering Company of Hongkong, Limited
Earnshaw, M. & Co.
Vulcan Iron Works, Ltd.

**STEAMSHIP COMPANIES**
American Asiatic S. S. Co.
China and Manila S. S. Co., Ltd.
China Merchants Steam Nav. Co.
Cia. General de Tabacos
Nippon Yusen Kaisha
Occidental and Oriental S. S. Co.
Pacific Mail S. S. Co.
Toyo Kisen Kaisha S. S. Co.
Transatlantica S. S. Co.
Ynchausti & Co.

**STEEL MANUFACTURERS**
United States Steel Products Export Co.
Zimmerman Steel Co.

**STEEL WORKS**
Bohler Bros. & Co.
The Han-Yeh-Ping Iron and Coal Co. Ltd.
Hanyang Iron & Steel Works.

**STRUCTURAL STEEL**
Bohler Bros. & Co.
A. Gulf & Pacific Co.

**SUGAR MACHINERY**
Honolulu Iron Works.

**TANKS**
Atlantic, Gulf & Pacific Co.
Pacific Tank and Pipe Co.
Shanghai Dock & Engineering Co., Ltd.

**TELEPHONES**
The Western Electric Co.

**TILES AND BRICKS**
C. Fressel & Co.
Green Island Cement Co., Ltd
Chinese Eng. Mining Co.

**TOBACCO DEALERS**
British American Tobacco Co., Ltd
Cia. General de Tabacos
Olsen & Co., Walter E.

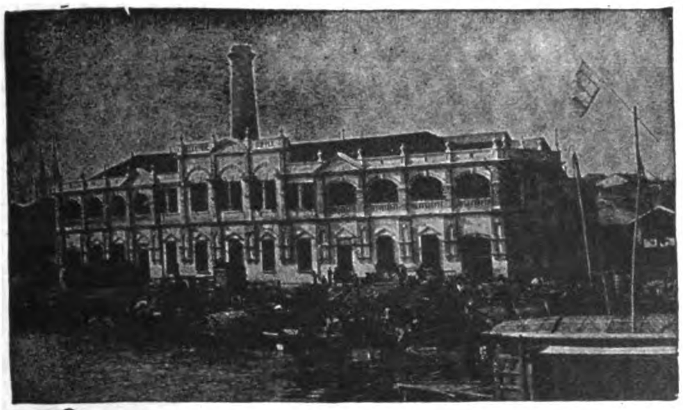
**TOOLS**
Lodge & Shipley Machine Tool Co.
Shanghai Machine Co.
Lambert-Springer Co.

**TYPEWRITERS**
The Fox Typewriter
Remington Typewriter Co.

**WINDMILLS**
Fairbanks, Morse & Co.
Defiance Machine Works.


J. J. CHOLLOT
INGENIEUR DES PONTS ET CHAUSSEES
CIVIL ENGINEER, SURVEYOR AND ARCHITECT
53 QUAI DU YANG-KING-PANG, SHANGHAI

A. J. MORSE & SON, INC.
221 High St., Boston, Mass., U. S. A.
ESTABLISHED 1837
DIVING APPARATUS
Special Apparatus built to order
FRANK L. STRONG, Agent :- 24 Calle Echague, Manila, P. I.



ELECTRIC SUPPLY BUILDING, CANTON, CHINA. PURNELL & PAGET, ARCHITECTS AND ENGINEERS. BUILT KAHN SYSTEM OF REINFORCED CONCRETE.

EAST HALL, CANTON CHRISTIAN COLLEGE, CANTON, CHINA. STOUGHTON & STOUGHTON, ARCHITECTS, BUILT KAHN SYSTEM OF REINFORCED CONCRETE.

# KAHN SYSTEM

## OF REINFORCED CONCRETE

The modern way of building—Fireproof and Enduring—Costs nothing for maintenance and lasts forever.

Over 2500 *Kahn System* structures in all parts of the world—including Factories, Warehouses, Stores, Office Buildings, Hotels, Public Buildings, Bridges, Viaducts, Tunnels, Reservoirs, etc.—Over 50 important buildings for the United States Government.

Experts agree that reinforced concrete is the best building material for resisting earthquakes.

*Kahn System* controls exclusively:

- **KAHN TRUSSED BARS**—for reinforcing concrete beams, girders and floors.
- **RIB METAL**—for reinforcing slabs, walls, sewers and conduits.
- **HY-RIB**—A self-centering reinforcement for floors and roofs. A unit of lath and studs for walls and partitions.
- **RIB-LATH**—The best steel lath for plastering and stucco work.
- **"TRUS-CON" CHEMICAL PRODUCTS**—for finishing and water-proofing concrete.

Our Engineering Department will be glad to assist you with designs and estimates.

Separate catalogues showing structures of every kind, giving detailed methods of design and describing our various *Kahn System* products.

## Trussed Concrete Steel Company

**HEAD OFFICE DETROIT, MICH., U. S. A.**

***Eastern Agencies:***

*PHILIPPINE ISLANDS*—California-Manila Lumber Commercial Co. Room 10, Lack & Davis Bldg., Manila, P. I.

*CHINA*—Arnhold, Karberg & Co., Hongkong, Canton, Newchwang, Tsingtau, Shanghai, Tientsin.

*JAPAN*—American Trading Co., Yokohama and Kobe.

*HAWAIIAN ISLANDS*—Honolulu Iron Works Co., Honolulu, T. H.

*The Development of the*

# Remington

*is the History of the Writing Machine*

## 10 AND 11 NEW MODELS NOW READY

**Model 10, with Column Selector**
**Model 11, with Built-in Tabulator**

## Remington Typewriter Company

(INCORPORATED)

**New York and Everywhere**

McAlister & Co. Ltd., Singapore.
E. C. McCullough & Co., Manila.
Mustard & Co., Shanghai.
E. H. Tuska, Kobe and Yokohama.

# THE FOX VISIBLE TYPE-WRITER

**The STANDARD TYPEWRITER of the WORLD**

**THE ONLY VISIBLE TYPEWRITER** having the strength, solidity, and durability of the best blind machines.

The **FOX** is the Typewriter that compelled every other typewriter manufacturer to get out a visible model—or go out of business.

The **FOX** has every improvement and attachment of the highest grade typewriter.

It combines "The good of the old with the best of the new."

**AGENTS WANTED**

We offer the Standard Typewriter, Exclusive Territory, very liberal conditions, and every possible assistance to our representatives.

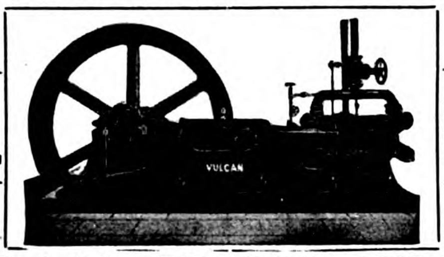
Write for free illustrated catalog and circulars

## FOX TYPEWRTER CO. 970-980 FRONT STREET GRAND RAPIDS, MICH., U.S.A.

**FEARON, DANIEL & CO., Shanghai, Agents for China**

# ICE MACHINES

OF ANY DESIRED CAPACITY

VUL  CAN

## VULCAN IRON WORKS

San Francisco, California, U. S. A.

SEND FOR CATALOGUE

Cable Address: "VULCAN" San Francisco

No. E-5008
Cable Name "Chindiv n";
Price $169.75 (£35-7s 6d)
Crated and F. O. B. Vessell, New York.

# Big Vehicle Values

"Murray" Vehicles and Harness at a Saving from 25 to 40%

Why buy vehicles and harness from a dealer when you can save from 25 to 40% by buying direct from The Wilber H. Murray Mfg. Co., one of the best known vehicle, harness and saddle concerns in the world! "Murray" products are sold in every part of the world and are well known especially for our famous

"Murray" Guarantee of Quality

Every "Murray" product is backed by our guarantee to be as represented, and you can be sure that you will make no mistake in dealing with us, as there is no question as to our responsibility and financial standing, and our honesty in dealing for the past 24 years has resulted in thousands of satisfied customers.

The "Murray" Style Book No. 192 Absolutely Free

We cordially invite you to write for our "Murray" Style Book for 1910, which contains 152 pages, illustrating and describing 251 different designs, many of them in colors, among them 138 styles of carriages of the latest designs, 74 styles of harness and a fine saddle stock.

No. E 5001 Cable Name "Chimoio". Price $45.75 (£9-14 S- 10 d) Crated and F. O. B. Vessell New York

THE WILBER H. MURRAY MFG. CO.
321 to 329 East Fifth Street, Cincinnati, Ohio, U. S. A.



# DREDGE "AMERICA"

## FOR SALE

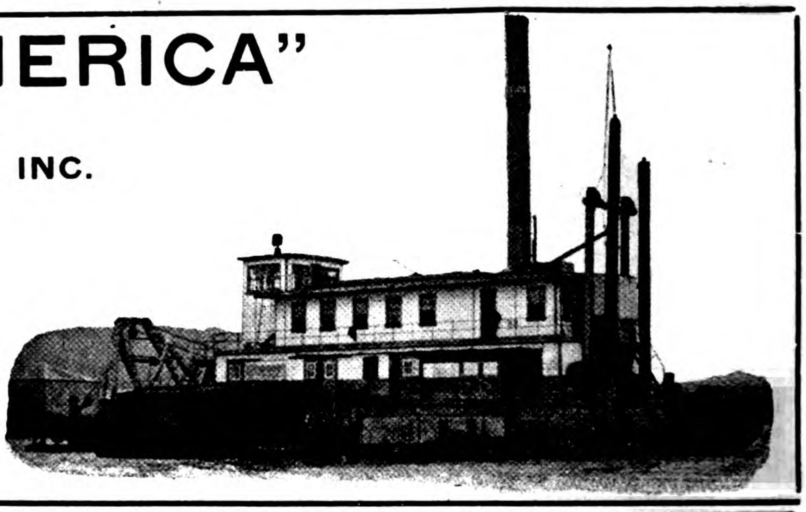
J. G. WHITE & CO., INC.
MANILA, P. I.

16 inch Hydraulic Dredge, Capacity, 7500 gals. per Minute.

For sale at one half cost account closing out plant.

Perfect condition. Has been in service less than two years.

Ready for work now, with full equipment, pontoons, pipe, spare parts.



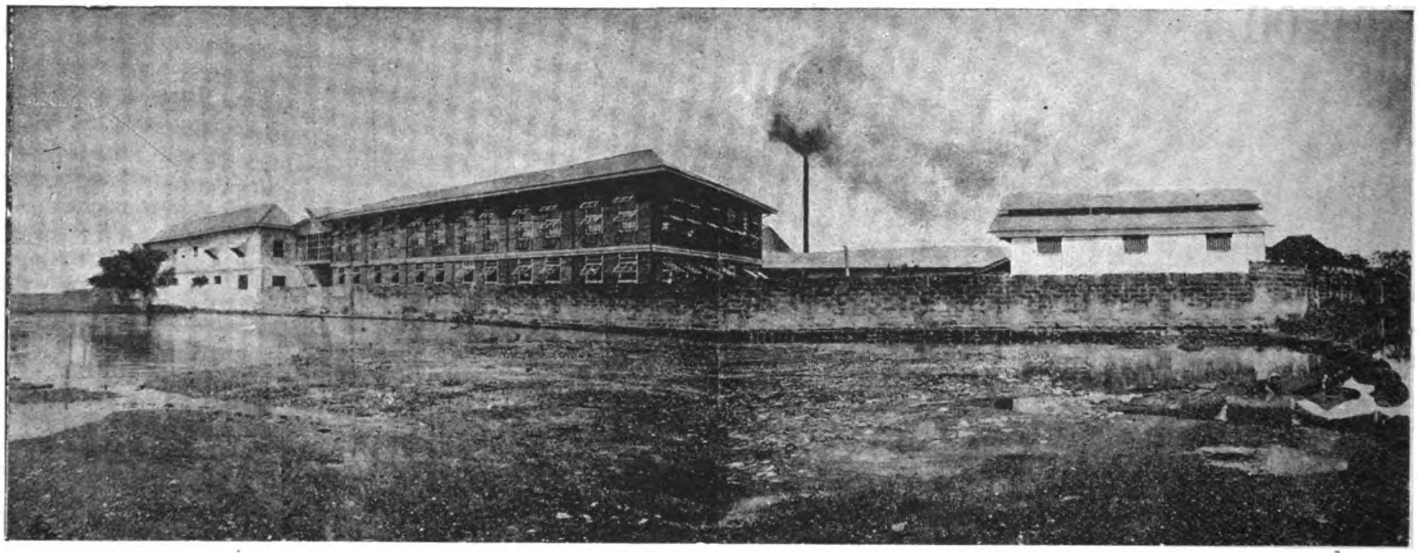


Cable Address:
ALHAMBRA

# ALHAMBRA

P. O. Box 301
Telephone 527

Cigar and Cigarette Factory, Manila, P. I.



Most perfect sanitary installations and absolute cleanliness throughout the Factory in every department.

**View of the Factory from the Riverside.**

Well ventilated, airy working rooms. Everything under European expert supervision.

A few leaders:

Divinos, Regalia, Alha., Excelentes, Perfectos, Especiales, High Life, Incomparables, Republica, Imperiales, Etc., Etc.

Why the Best:

We use nothing but finest selected Isabela leaf.
We maintain the quality of each grade by strict supervision.
We combine quality, grade and price so as to give the best return for money.

Catalogs, Price Lists and Samples Furnished on application

KUENZLE & STREIFF, PROPS.

*THE*

## *World's Best Products*

TOBACCOS

Garrick Smoking Mixture
Glasgow Smoking Mixture
Player's Navy Cut
Player's Navy Mixture
Old English Curve Cut
Capstan Mixture
Bull Durham
Black & Tan

VIRGINIAN CIGARETTES

Three Castles
Capstan Navy Cut
Sweet Caporal
Crosscut
Garrick, Gold Tipped
Garrick, Plain
Golden Honey Dew

EGYPTIAN CIGARETTES

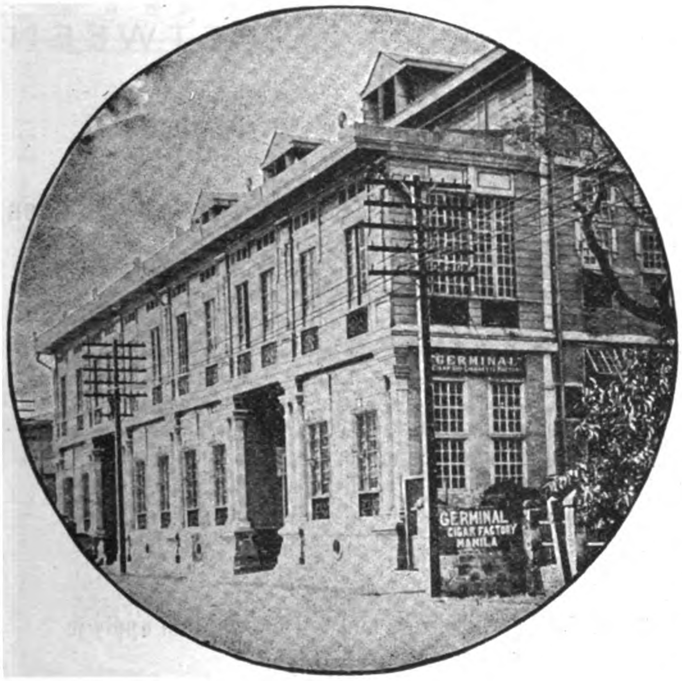
Bouton Rouge
Felucca
Nilometer
Rapido
Lotus
Natural

OBTAINABLE OF ALL DEALERS AND AT DEPOTS OF

## British-American Tobacco Company, Ltd.

SHANGHAI -:- HONGKONG -:- MANILA -:- SINGAPORE -:- BANGKOK -:- COLOMBO -:- CHEMULPO






# "GERMINAL"

## Cigar and Cigarette Factory

4 Calle Marques de Comillas, Manila, P. I.

FOR A MILD CIGARETTE SMOKE TRY THE "FLOREAL"

"GERMINAL" MANILA. TRADE MARK

GERMINAL CIGARS THE UNIVERSAL FAVORITE

This means the approval of discriminating critics; and shows an appreciation of the delicious richness of the choicest tobacco leaf, the exquisite aroma of an original blend, the finished touch throughout of an expert's hand - - - - - - - - -

# "FLOREAL" Cigarettes

"floreal" TRADE MARK

TELEGRAPHIC ADDRESS:
"TABACALERA"

HEAD OFFICE
BARCELONA

# COMPANIA GENERAL DE TABACOS
## DE FILIPINAS

**Established in 1882.** **Capital: £ 3,000,000**

Shipping Department, 63 Escolta.

—

Manila General Office, Calzada Marques de Comillas.

—

Retail Store, 63 Escolta.

BRANCHES AND AGENCIES

—

in the principal cities of the world and towns of the Philippines

—

Proprietors of the celebrated factories

## "La Flor de la Isabela"

High grade cigars manufactured with the most selected leaf grown in the estates of the Company.

SPECIAL BRANDS:

Pig's tails, Vegueros Especiales, Regalia A. Lopez, Regalia G. Pereire, Favoritos A. Lopez, Favoritos A. Correa, Perfectos Especiales, Exquisitos, Reina Victoria, etc.

**Excellent common brands.**

## "La Clementina"

Alcohol Manufactures—Gin—Distilled Spirits

**GENERAL IMPORTERS AND EXPORTERS**

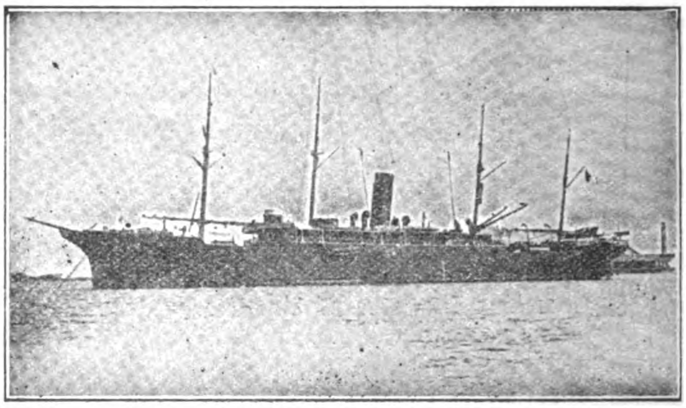
INTERISLAND STEAMERS

Under Government Contract and Inspection. Electric Light. First Class Accommodation

**FAR EASTERN BRANCH AGENCIES:**

| | |
|---|---|
| YOKOHAMA............ | 240 Settlement. |
| SHANGHAI............ | J. DELBOURGO, 29 Rue du Consulat. |
| HONGKONG ............ | A. R. MARTY, 2 Pedder-st. |

# *Spanish Royal Mail*



S. S. ANTONIO LOPEZ

# C.ᴵᴬ TRANSATLANTICA

## Late Lopez & Co.

Under Contract with R. C. M. Government

DIRECT SERVICE BETWEEN

Manila, Singapore, Barcelona and Liverpool. Calling at Colombo, Port Said, Genoa, Cadiz, Lisbon, Vigo.

**Regular passenger and freight service between**

Manila, Singapore, Colombo, Suez, Port Said, Genoa, Barcelona, Valencia, Cadiz, Lisbon, Vigo, Coruna and Liverpool. Regular monthly service between Barcelona, Cadiz, New York, Cuba and Mexico. Through tickets from Manila to New York with change of steamer at Barcelona or Cadiz. Through bill of lading to all European ports and to Atlantic Coast Ports of U. S. A. Cargo for Naples transhipped at Genoa and for London and Hamburg at Liverpool : : : : : : : : : : :

**For freight and passage and full information apply to**

AGENT DE LA

# COMPANIA TRANSATLANTICA

Plaza Moraga No. 9 Manila, P. I.

# THE SEMI-TROPICAL ROUTE

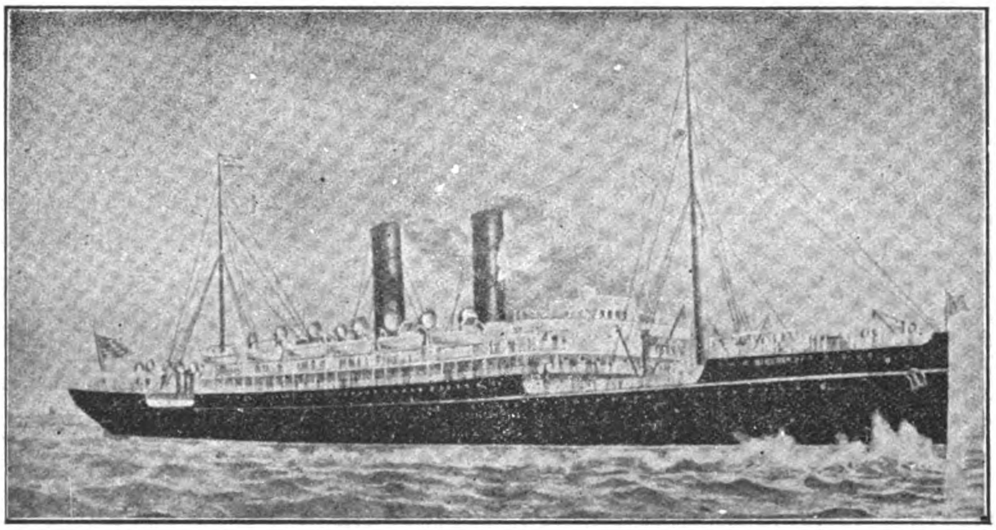
**PACIFIC MAIL STEAMSHIP COMPANY**

**TOYO KISEN KAISHA**

**DIRECT SERVICE BETWEEN SAN FRANCISCO AND THE FAR EAST**

SAN FRANCISCO
HONOLULU
YOKOHAMA
KOBE
NAGASAKI
SHANGHAI
HONGKONG
MANILA

A. M. GARLAND
FREIGHT TRAFFIC MANAGER
A. G. D. KERRELL
GENERAL PASSENGER AGENT



MANCHURIA
MONGOLIA
KOREA
SIBERIA
CHINA
ASIA
TENYO MARU
CHIYO MARU
NIPPON MARU

GENERAL OFFICE,
"FLOOD BUILDING"
SAN FRANCISCO, CAL.

SIBERIA—Transpacific Record 10 days 10 hrs. (Yokohama-San Francisco)

FEATURES OF THE LINE:—Southern route; passengers enjoy outdoors throughout; deck bathing. The call at Honolulu, Oahu, the most fertile and beautiful Island of the Pacific. The only line to San Francisco, the greatest port of the Pacific.

**Castle Bros.-Wolf & Sons, Agents, Manila, P. I.**



# SAN FRANCISCO TO THE EAST

## *The Overland Limited*

**Electric-lighted parlor sleeping cars, combination buffet-library and drawing-room observation cars. Diner all the way**

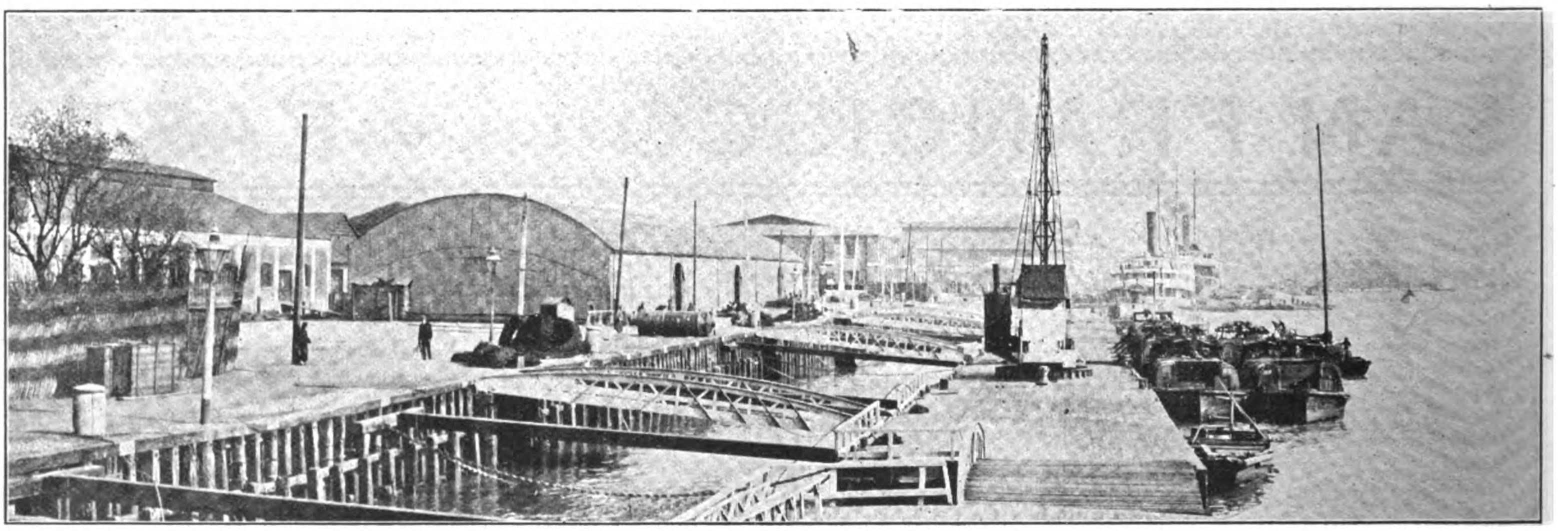
## *The Last Word in Luxurious Travel*

**Over the scenic route and straight across the Great Salt Lake by way of Lucin-Ogden cut-off, a wonderful triumph of modern engineering**

# SOUTHERN PACIFIC

## Operating Coast and River Steamships
## Between Shanghai and all the Principal Ports of China

| | | | |
|---|---|---|---|
| SHANGHAI | AMOY | NANKING | ICHANG |
| CHEFOO | SWATOW | WUHU | CHANGSHA |
| TIENTSIN | HONGKONG | KIUKIANG | NANCHANG |
| NEWCHWANG | CANTON | HANKOW | HANGCHOW |
| FOOCHOW | CHINKIANG | SHASI | SOOCHOW, ETC. |



VIEW OF LOWER HONGKEW WHARVES

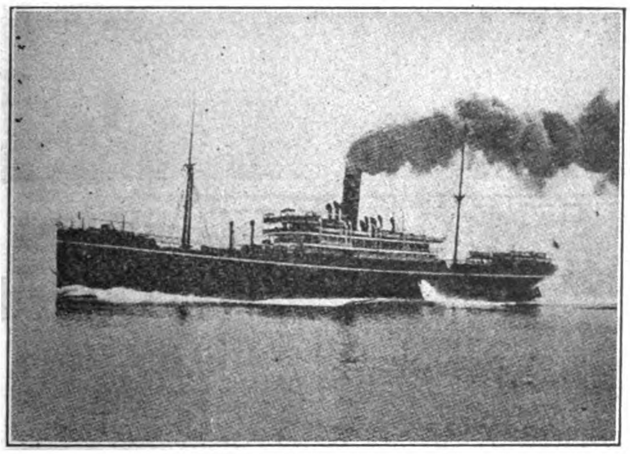
**Operating the Most Extensive and Economical System of Wharves and Warehouses in Shanghai. The Lower HongKew, Central, Eastern, and YangKadoo Wharves Possess Every Facility for QuicK and Economical Dispatch.**

GOODS FROM ANY PART OF THE WORLD MAY BE CONSIGNED TO OUR BONDED WAREHOUSES, AND WILL BE DISCHARGED AND STORED AT LOWEST RATES, SUBJECT TO DELIVERY AT ANY TIME TO AUTHORIZED PARTIES

H. E. TAOTAI M. Y. CHUNG
MANAGING DIRECTOR
NO. — BUND

THOMAS H. HARRIS
GENERAL MANAGER
LOWER HONGKEW WHARVES

# NIPPON YUSEN KAISHA



(JAPAN MAIL S. S. CO.)

Under Mail Contract with the Imp. Japanese Government

EUROPEAN LINE ................FORTNIGHTLY
AMERICAN LINE ................FORWEEKLY (FROM KOBE FORTNIGHTLY)
AUSTRALIAN LINE................FORTNIGHTLY
YOKOHAMA SHANGHAI LINE.....TWICE A WEEK
SEVERAL LINES BETWEEN JAPAN TO NORTH CHINA, COREA, VLADIVOSTOK, ETC.

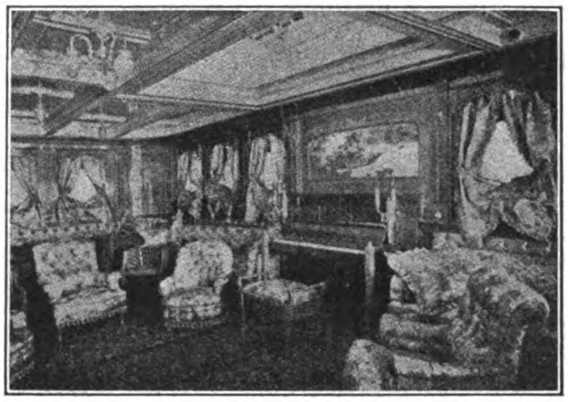
For Further Particulars concerning Freight and Passage, apply

## NIPPON YUSEN KAISHA

SHANGHAI, HONGKONG, YOKOHAMA, KOBE, MOJI, NAGASAKI AND

## WARNER BARNES & CO.

Agents, Manila



SOCIAL HALL S.S. "NIKKO MARU"



# THE ROBERT DOLLAR CO.

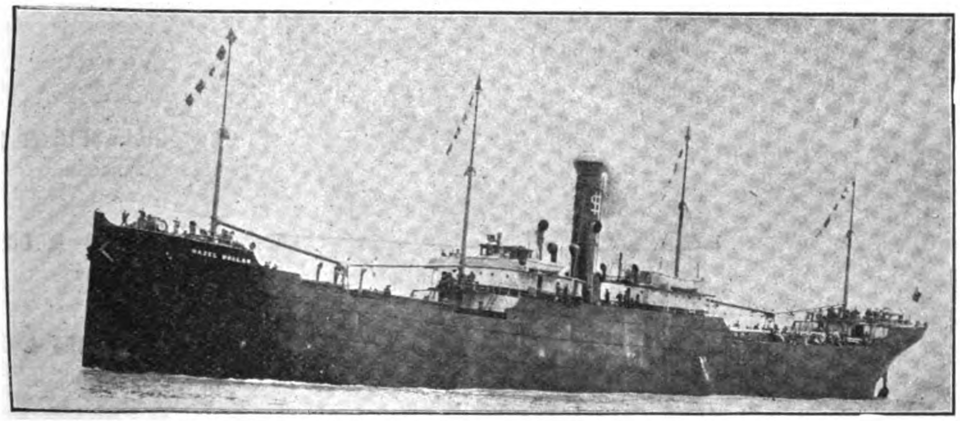
HEAD OFFICE: 60 California St, San Francisco, Cal.

CHINA OFFICE: 13 Nanking Road, Shanghai

## Mills at Tacoma, Wash., and Portland, Ore., U. S. A.

STEAMERS

BESSIE DOLLAR - - - - - - - HAZEL DOLLAR
STANLEY DOLLAR - - - - - - - M. S. DOLLAR
MELVILLE DOLLAR - - - - - HAROLD DOLLAR
GRACE DOLLAR



S. S. "HAZEL DOLLAR"

MANUFACTURERS OF OREGON PINE, CALIFORNIA RED WOOD AND CREOSOTED SLEEPERS

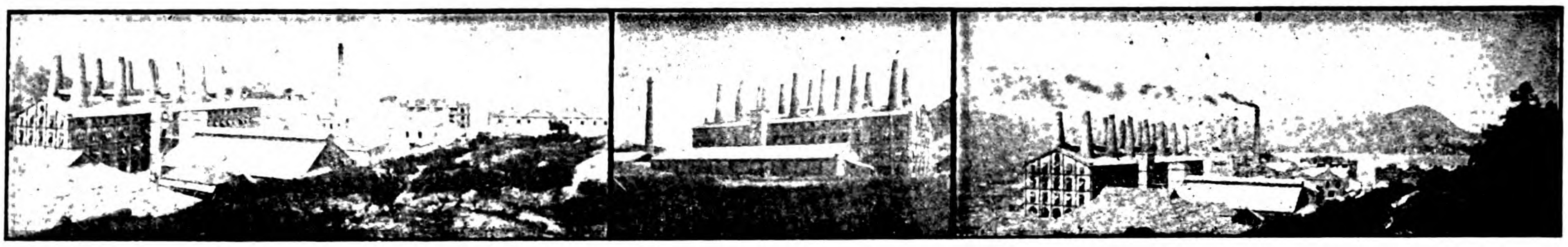
OUR MILLS ARE ESPECIALLY EQUIPPED FOR SUPPLYING RAILWAY TIMBER ORDERS, AND WE MAKE PROMPT DELIVERY BY OUR OWN STEAMERS

CABLE ADDRESS:

"DOLLAR"

A. B. C. 5th Ed.: Southard's Codes

# GREEN ISLAND CEMENT

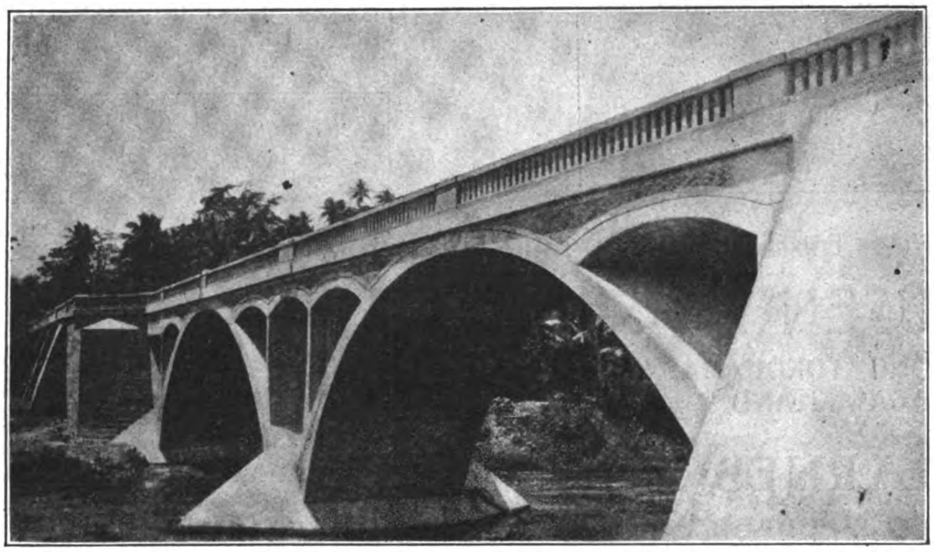


WORKS OF THE GREEN ISLAND CEMENT COMPANY, LIMITED, HONGKONG

Glazed Stoneware

—

House Drain and Sewer Pipes and Fittings In Stock



PARABOLIC ARCH BRIDGE, ALBAY—2500 BARRELS OF GREEN ISLAND CEMENT USED IN ITS CONSTRUCTION

Glazed Paving Bricks and Tiles

—

Fire Bricks and Fire Clay

**Agents:**

WM. H. ANDERSON & CO.
MANILA, P. I.

SHEWAN, TOMES & CO.
SHANGHAI

SHEWAN, TOMES & CO.
JAPAN

TURNER, MORRISON & CO
CALCUTTA

**Agents:**

GEO. GILLESPIE & CO.
RANGOON

E. SPINNER & CO.
BOMBAY

SHEWAN, TOMES & CO.
TIENTSIN

McALISTER & CO., LTD.
SINGAPORE, PENANG

SANTA CRUZ BRIDGE

# WM. H. ANDERSON & CO.

MANILA, P. I.

IMPORTERS AND EXPORTERS: COMMISSION AGENTS

AGENTS IN THE PHILIPPINES FOR

| | | | |
|---|---|---|---|
| GREEN ISLAND CEMENT COMPANY | LIBBY, McNEILL & LIBBY | DIEBOLD SAFES | GLAZED SEWER PIPE |
| HONGKONG ROPE MFG. CO. | SWIFT & COMPANY | AERMOTOR COMPANY | FIRE BRICK, FIRE CLAY |
| FARM AND ROAD WAGONS | BRUNSWICK-BALKE COLLENDER CO. | LUBRICATING OILS | RUBEROID ROOFING |

*Use Dragon Brand for Highclass Solid and Enduring Construction*

GENERAL AGENTS FOR CHINA

# *RACINE ACKERMANN & CO.*

*NO. 4 YANG-KING-PANG, SHANGHAI*

## THE CHEE HSIN CEMENT CO., LTD.

**TANGSHAN PORTLAND CEMENT**

In barrels of 375 lbs. (170 kg.) net

Tangshan Portland Cement, manufactured of the best raw material at our new extensive works which have recently been erected and equipped with the newest and most up-to-date machinery, flint-mills, rotary-ovens, etc., etc., is of superior quality and

**EQUAL TO THE BEST EUROPEAN BRANDS**

Awarded Silver Medal at St. Louis Exposition 1904

*Shanghai Agent:*
*E. WOYAN*
*47 Quai de France*

In bags of 187½ lbs. (85½ kg.) net

Tangshan Portland Cement is universally used throughout North China by Railways, Engineering Works, Mining Companies, Municipalities, etc. Orders of large extent accepted for delivery at short notice.

**CEMENT MOSAIC TILES**
**CEMENT ROOFING TILES**
**CEMENT PAVING TILES**
**CEMENT DRAIN PIPES**
**FIREBRICKS**
**FIRECLAY TILES**
**GROUND FIRECLAY**

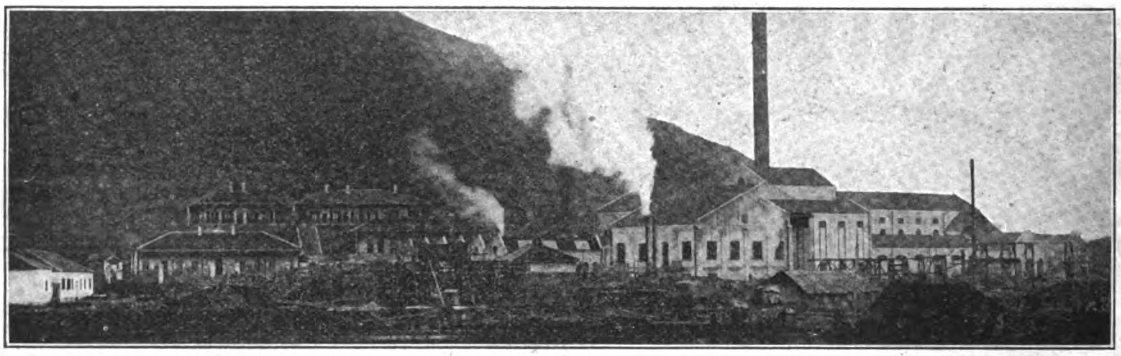
For particulars and prices apply to

**THE CHEE HSIN CEMENT CO., LTD.**

Head Offices: TIENTSIN

*Hankow Agent:*
*CHING CHONG*

---



## TAYEH, HUPEH PROVINCE, CHINA

TELEGRAPH ADDRESS:

**"SHUINEE"**

**SHANGHAI OFFICES:**

221 NINGPO ROAD
TELEPHONE, 3431

**HANKOW OFFICES:**

CHINESE BUND,
CHONG PING LANE

# PRIESTMAN BROTHERS, LIMITED

HULL AND
3 LAURENCE POUNTNEY HILL,
CANNON ST., LONDON, E. C.

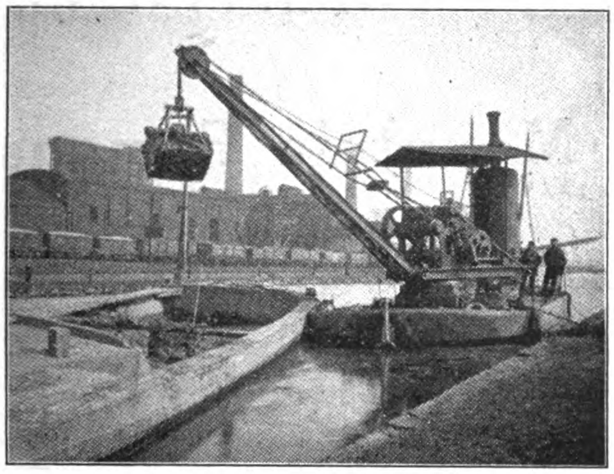
## DREDGERS, EXCAVATORS AND ELEVATORS

150 DIFFERENT TYPES AND SIZES OF GRABS TO SELECT FROM 1 TO 150 CUBIC FEET CAPACITY

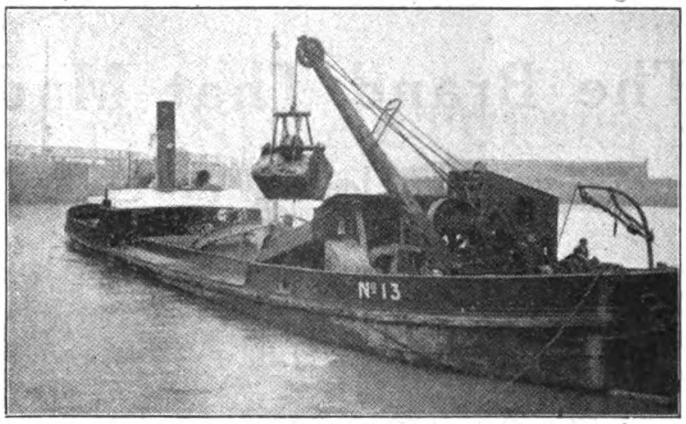
PRICES AND FULL PARTICULARS ON APPLICATION TO

ONE OF FOUR GRAB DREDGERS SUPPLIED TO THE GREAT WESTERN RAILWAY CO.

ONE OF A LARGE NUMBER OF GRABS TAKEN BY MESSRS. S. PEARSON & SON, LTD., CONTRACTORS



ONE OF A NUMBER OF GRAB DREDGERS SUPPLIED TO THE LONDON & NORTH WESTERN RAILWAY COMPANY



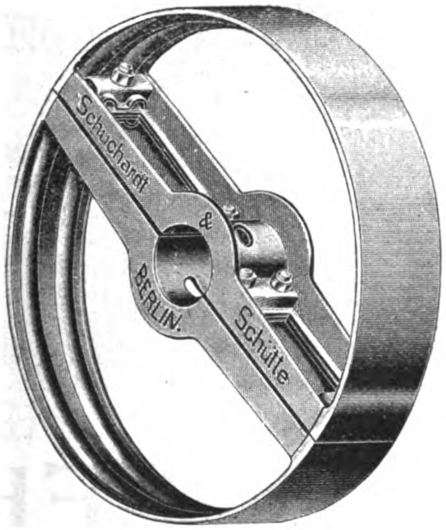

ONE OF FIFTEEN GRAB DREDGERS SUPPLIED TO THE LIVERPOOL DOCKS BOARD

## DICKESON, JONES & CO., AGENTS FOR CHINA

---

## SCHUCHARDT & SCHUTTE

BERLIN LONDON NEW YORK




ABSOLUTELY RIGID

NO BREAKAGE NO WARPING.

FULL ASSORTMENT OF SIZES CARRIED IN STOCK BY:

TAKATA & CO., TOKYO
SHANGHAI MACHINE CO., SHANGHAI AND HANKOW.
GERMANN & CO., MANILA.
HOWARTH ERSKINE & CO., LTD., BANGKOK.
MAINTZ & CO., BATAVIA AND SOERABAYA.

---

**The United States offers the greatest opportunity** in the world to makers of industrial or denatured alcohol. Those who start this production now are bound to come to great rewards. The field is practically untouched and by starting now, you can have things very much your own way.

## THE UTILIZATION OF WOOD WASTE BY DISTILLATION

A general consideration of the NEW INDUSTRY, including a full description of the distilling apparatus used and the principle involved, also methods of chemical control and disposal of the products, first edition illustrated by seventy-four engravings, 156 pages. This book is cloth bound, it will be sent to any address post paid on receipt of $3.20. Every farm, ranch and merchant needs a 5 gallon Tax-Free denatured alcohol distillery apparatus. Agents price $98.50, a 100 gallon distilling apparatus cost $700.00. We are desirous to establish Far Eastern Agencies and have very good propositions to offer.

## Wood Waste Distilleries Co.

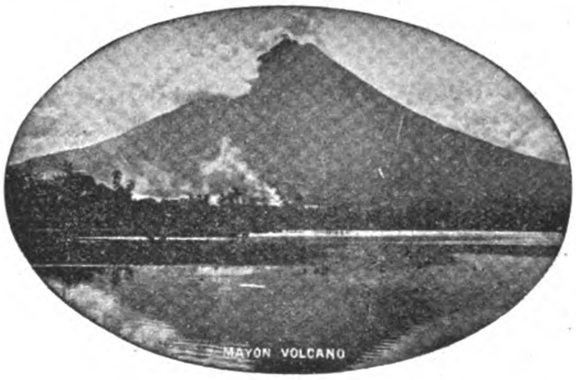
213-217 St. Clair Ave., N. W. CLEVELAND, OHIO, U. S. A.

# CLARKE'S

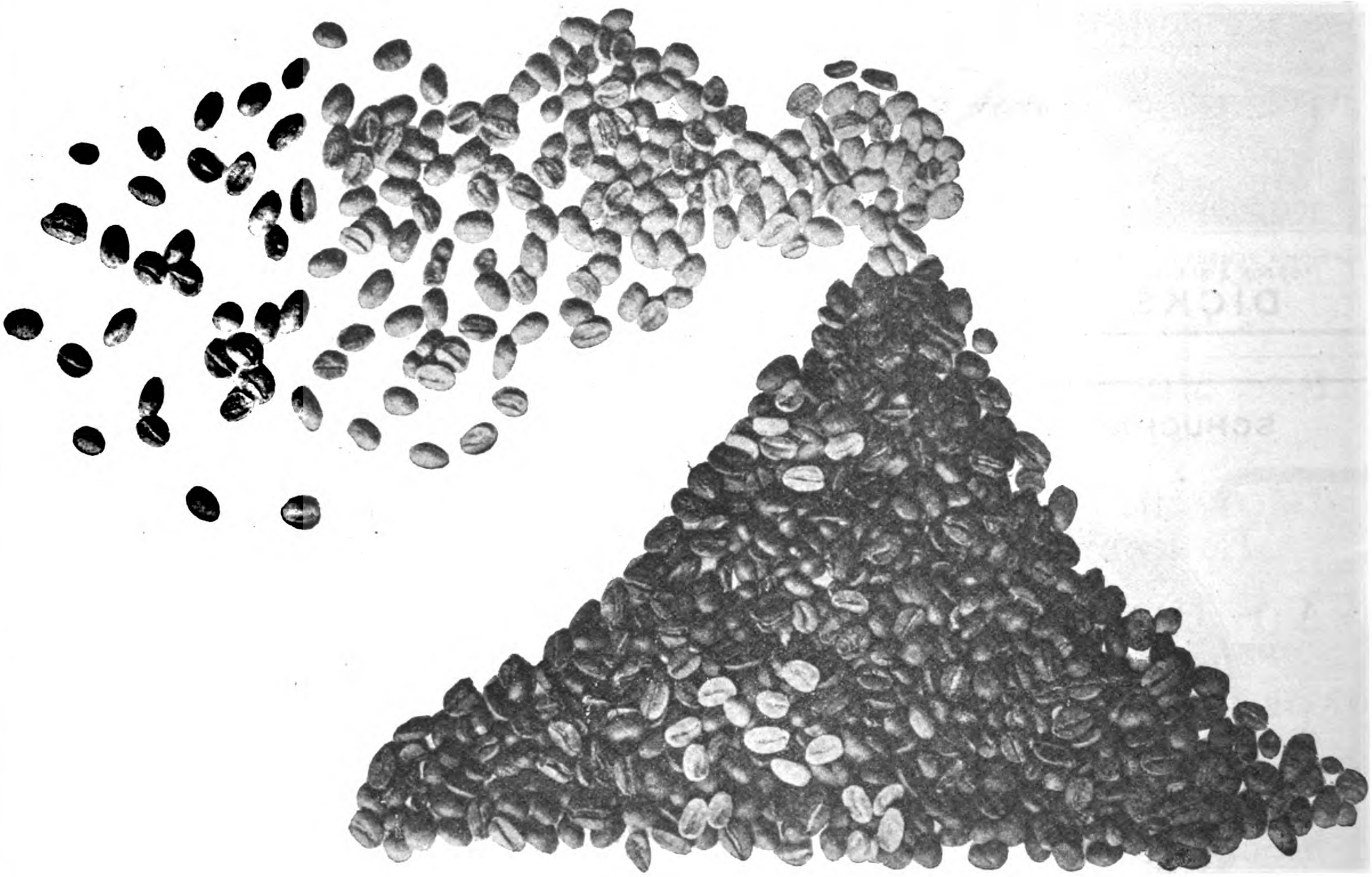
## MAYON COFFEE

MANILA

PHILIPPINE IS.




**The Brand That Made The Mountain Famous**



## CLARKE'S MAYON COFFEE

EQUALS "SATISFIED CUSTOMERS"

**Once Tried Always Used—Never Refused**

| Frank L. Strong | Stuart S. Harvey |
|---|---|
| Cable Address: STRONG | Cable Address: HARVISTON |
| Telephone No. 360 P. O. Box 772 | Telephone No. 360 P. O. Box 277 |

Offices: 34-40 Calle Echague, Manila, P. I.

EXCLUSIVE AGENTS

FOR LEADING

AMERICAN AND EUROPEAN MANUFACTURERS

LEADING SPECIALTIES

Electrical Machinery and Supplies

Saw Mill and Planing Mill Machinery

Locomotives and Railway Equipments

Air Compressors and Pneumatic Tools

Agricultural and Road Making Machinery

Mechanics' Tools, Builders' Hardware, etc., etc.

Steam Engines and Boilers

Kerosene and Gasoline Engines

Ice and Refrigerating Machines

Sugar, Rice and Fibre Machinery

Mining and Hydraulic Machinery

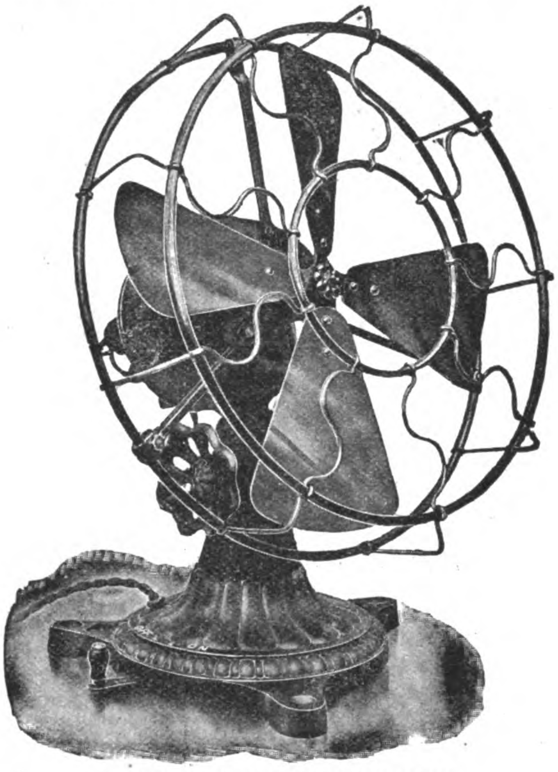
Complete Machine Shop Equipment

SPECIFICATIONS DRAWN ESTIMATES GIVEN

# Shanghai Electric and Asbestos Co., Ltd.

**Removed to new premises on Nanking Road—between the Bund and Szechuen Road, Shanghai**

## Electrical Engineers, Government Contractors, and Agents.



SOLE AGENTS FOR

*Bell's Asbestos Eastern Agency, Ltd.*

*Packings and Special Lubricants*

*Suter Hartmann and Rahtjen's "Red Hand"*

*Anti-Corrosive and Anti-Fouling Paints*

*"Express" Marine Oils*

*Easton Lift Co., Electric Lifts*

*Bowers Rubber Works, San Francisco, Cal.*

*Rubber Goods, Packings, Fire Hose, Mats, etc.*

**Cable Address: "OHM" SHANGHAI**
**Codes: A-1, A. B. C. (5th Edition), Engineering and Western Union**

The oldest established firm in our line in China. We carry the largest and most varied stocks in the Far East. Call and see our showroom

CLASSIFIED HEADINGS

**ELECTRICAL ENGINEERS, ELECTRICAL MACHINERY IMPORTERS, SUNDRY MACHINERY IMPORTERS, PAINT MERCHANTS, OIL MERCHANTS, RUBBER MERCHANTS, FIRE HOSE IMPORTERS, ASBESTOS IMPORTERS, PACKINGS IMPORTERS, ELEVATOR IMPORTERS, ELEVATOR INSTALLATIONS, SHIPS' COMPRADORES, MATTING IMPORTERS. - - - - - - - - - - - -**

# ROSE, DOWNS & THOMPSON, LTD.

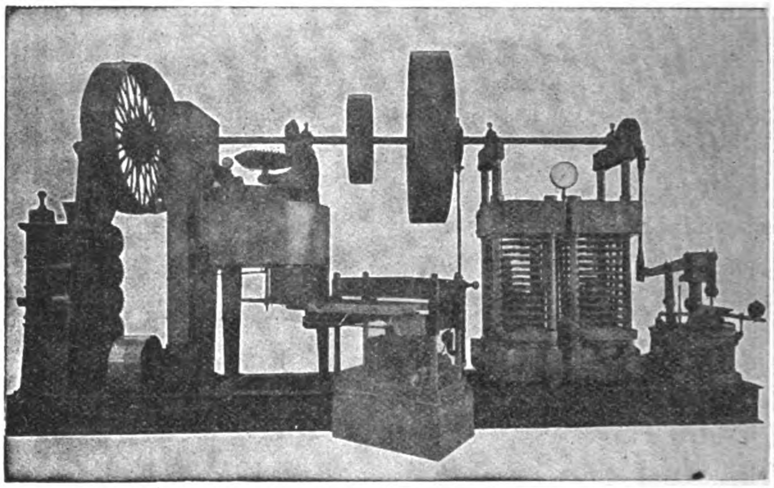
ESTABLISHED 1777

**EASTERN OFFICE: 13 NANKING ROAD, SHANGHAI**

CABLE ADDRESS: "ROSEDOWNS," SHANGHAI

HEAD OFFICE AND WORKS, HULL, ENGLAND

**CONTRACTORS TO HOME, COLONIAL AND FOREIGN GOVERNMENTS**



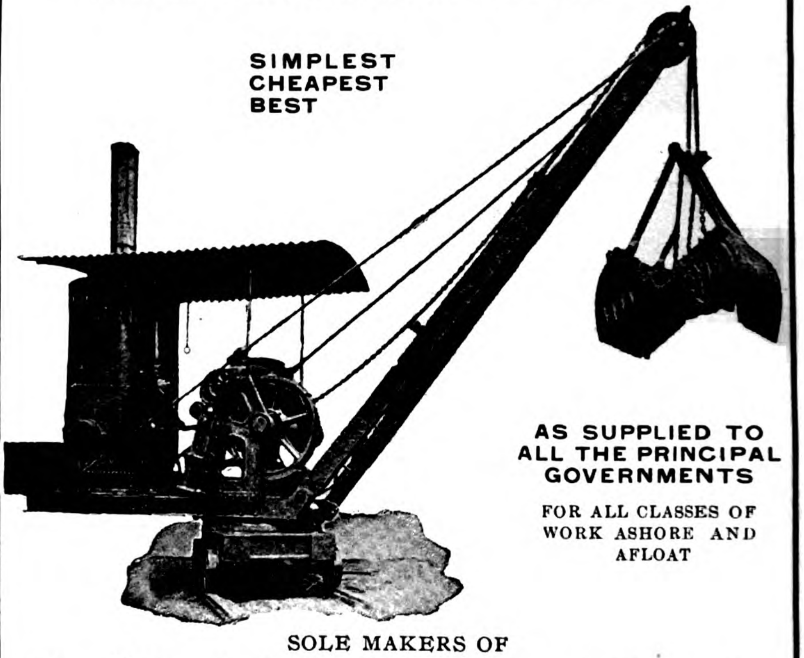
**OLDEST AND LARGEST MANUFACTURERS IN THE WORLD OF**

## OIL MILL MACHINERY

SUITABLE FOR THE TREATMENT OF EVERY VARIETY OF OIL-BEARING SEED AND NUT; ON THE MOST EFFICIENT AND MODERN PROCESSES

OVER 4,000,000 TONS OF SEEDS AND NUTS CRUSHED ANNUALLY IN MACHINERY MANUFACTURED BY US

SIMPLEST
CHEAPEST
BEST



AS SUPPLIED TO ALL THE PRINCIPAL GOVERNMENTS

FOR ALL CLASSES OF WORK ASHORE AND AFLOAT

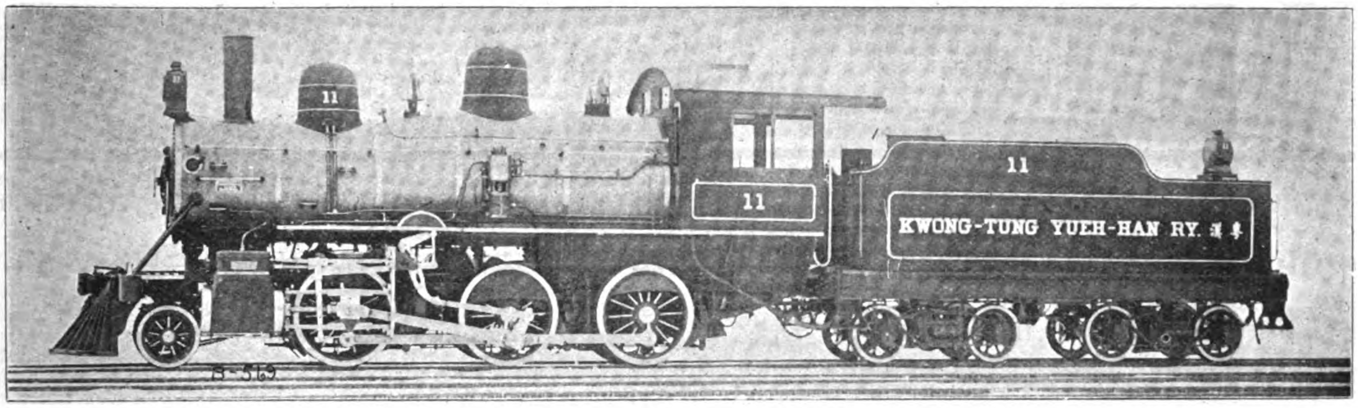
SOLE MAKERS OF

## The "Kingston" Grab Dredger and Excavator

POSSESSES IMPORTANT ADVANTAGES OVER ALL OTHER SYSTEMS

FOR DEEPENING RIVERS, DOCKS, CANALS, AND HARBOURS, EXCAVATING CLAY AND SAND, LIFTING ROCKS, DISCHARGING GRAIN, ETC., ETC.

**CATALOGUE, ESTIMATES AND FULL INFORMATION ON APPLICATION**




# MITSUI BUSSAN KAISHA

ENGINEERING DEPARTMENT

**Tokyo, Hongkong, Shanghai, Tientsin, Newchwang, Canton, Hankow, Dairen, Mukden, Changchun, etc.**

## Locomotives, Passenger Coaches, Freight Cars, Bridges, Rails, etc.

**Railways equipped throughout with the most modern Standard Appliances**

RAILWAYS IN CHINA FULLY OR PARTIALLY
EQUIPPED WITH MATERIALS SUPPLIED BY THE MITSUI BUSSAN KAISHA
SOUTH MANCHURIA RAILWAY; ANTUNG-MUKDEN LINE; KIANGSI RAILWAY; PEKING-HANKOW RAILWAY; KIANGSU RAILWAY; CHEKIANG RAILWAY; SWATOW-CHAOCHOWFU RAILWAY; ETC.

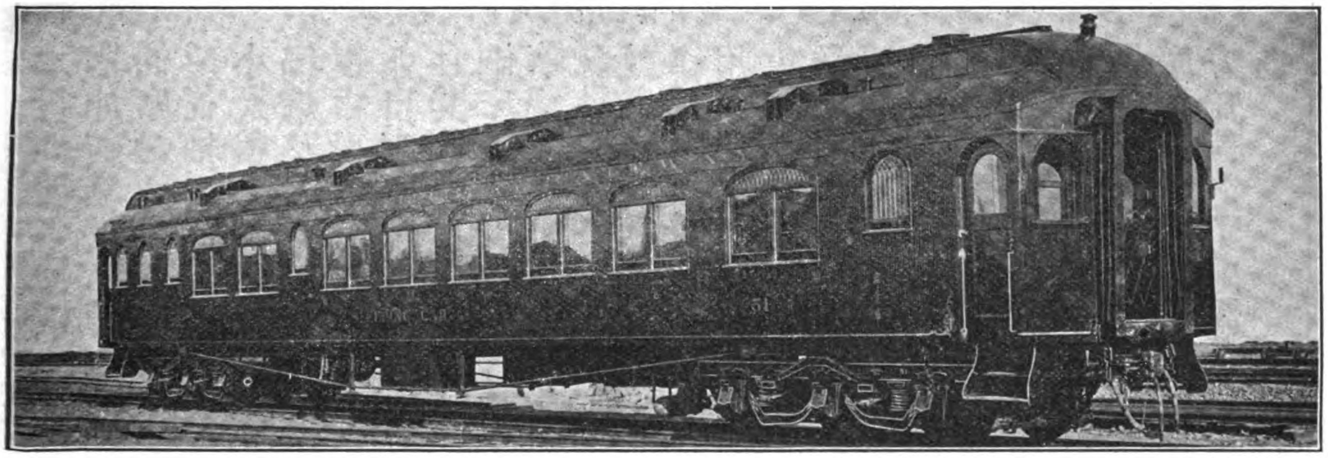
AGENTS IN JAPAN, KOREA, MANCHURIA AND CHINA FOR

**American Locomotive Co., Gould Coupler Co., The Pullman Co., Safety Car Heating & Lighting Co., Jones Laughlin Steel Co., Union Switch & Signal Co., etc.**

AGENTS FOR JAPAN AND KOREA:

**The Pyle National Headlight Co.**

RAILWAY MACHINE SHOPS FITTED COMPLETE WITH THE MOST APPROVED TYPES OF SPECIAL MACHINE TOOLS.



PULLMAN SLEEPING CAR ON THE SOUTH MANCHURIA RAILWAY

## Supplied by the MITSUI BUSSAN KAISHA

# SHEWAN, TOMES & Co

KOBE
CANTON
HONGKONG
SHANGHAI
TIENTSIN
NEW YORK

LONDON OFFICE
27
LEADENHALL STREET
LONDON, E.C.

**IMPORT AND EXPORT MERCHANDISE, COMMISSION AND SHIPPING AGENTS**

## London—Hongkong—Canton—Shanghai—Tientsin—Kobe—New York

**Telegraphic Address:**
**"KEECHONG," All Branches.**

**Hongkong Post Office Box: No. 131B**
**Shanghai Post Office Box: No. 84**

## General Managers of

The China Light & Power Co., Ltd., Hongkong
The Green Island Cement Co., Ltd., Hongkong
The Hongkong Rope Mfg. Co., Ltd., Hongkong
The China Provident Loan & Mortgage Co., Ltd., Hongkong
The Whangpoo Wharf and Godown Co., Ltd., Shanghai
The China and Manila Steamship Co., Ltd., Hongkong
The Canton Land Co., Ltd.
Equitable Life Assurance Society of the United States, Hongkong

## Agents for

American Asiatic Steamship Co.
American Manchuria Line, Hongkong
J. Marke Wood's Line of Steamers
The Yangtsze Valley Company, Ltd.
The Electric Traction Co. of Hongkong, Ltd.
The American China Development Co.
The Yangtsze Insurance Association, Ltd., Hongkong
World Marine Insurance Co., Hongkong
Reliance Marine Insurance Co., Hongkong
Union Marine Insurance Co., Ltd., Hongkong
Batavia Sea and Fire Insurance Co., Hongkong
Glen Line of Steamers, Hongkong
The British Dominions Marine Insurance Co., Ltd., Hongkong
North British & Mercantile Insurance Co., Hongkong
Law Union & Crown Insurance Co., Hongkong
Yorkshire Fire and Life Insurance Co., Hongkong
Fireman's Fund Insurance Co. (Fire only), Hongkong
Insurance Company of North America, Hongkong
The Chinese Engineering and Mining Company, Ltd., Hongkong
Shanghai Pulp and Paper Co., Ltd., Hongkong
The International Sleeping Car and Express Trains Co., Hongkong
(Trans-Siberian Railway), Hongkong
Tacoma Grain Co.
Birkmyre Bros.

# MACHINERY DEPARTMENT

## Shanghai, Telephone No. 3487

**ELECTRIC LIGHT & POWER PLANTS. RAILWAY, MINING, MILL AND INDUSTRIAL PLANTS AND EQUIPMENT; SAFETY WATER-TUBE BOILERS; STEAM TURBINES; PUMPS, GAS ENGINES, PRODUCERS, ETC. ENGINEERING AND ELECTRICAL SUPPLIES**

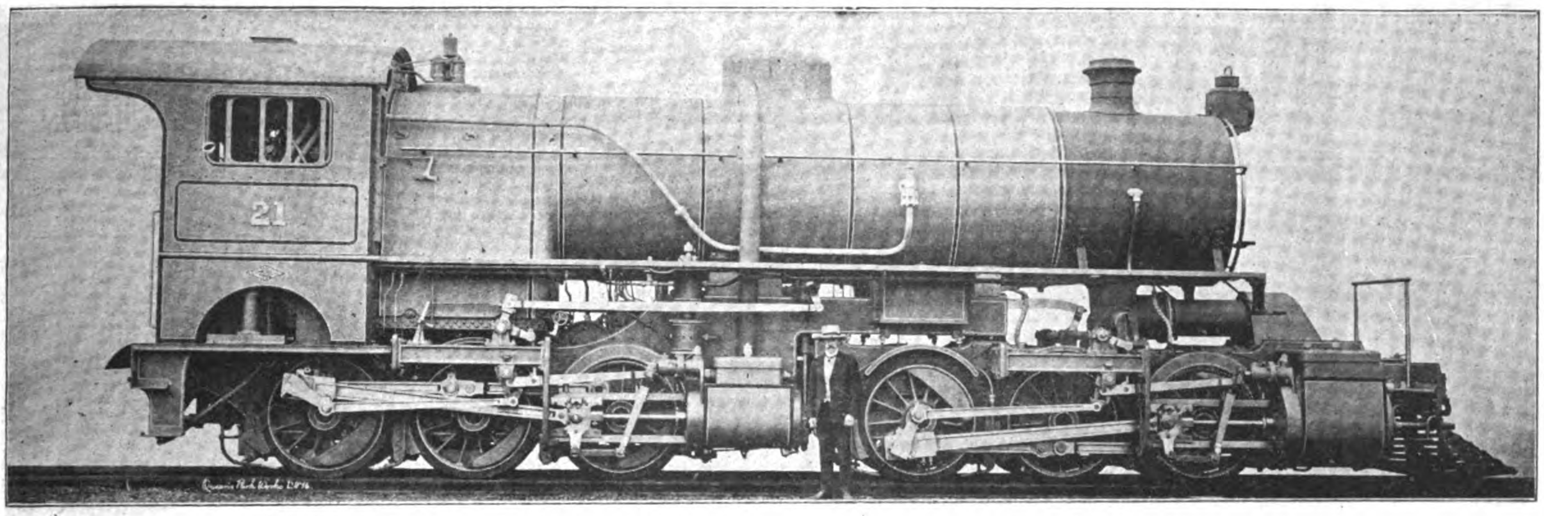
### 上海英商新旗昌洋行機器處廣告

本行樓子房現設江西路六號　電話三四八七號

本行經理各種機器如紡織碾米榨油磨麪造紙開礦墾荒抽水挖泥大小火輪全副引擎鍋爐及火車頭客車貨車鐵路材料並自來水一切物件其餘鋸木車鑽刨床各式大小引擎鍋爐及磨電機發動機煤氣引擎發煤氣機以及得律風電燈電氣應用一切另件等具色色俱全均係外洋著名廠家特別精造新式玲瓏堅固但各項名目繁多未便盡載倘承賜顧或蒙函詢當即竭誠詳細奉答價亦格外克己以廣招徠尚祈惠臨方知言之不虛謬也

**SOLE REPRESENTATIVES IN CHINA FOR**

British Insulated & Helsby Cables Ltd. (Hongkong and S. China).
British Westinghouse Electric & Manufacturing Co., Ltd.
Browett Lindley & Co., Ltd., England.
Barber Asphalt Paving Co., U. S. A.
Fraser & Chalmers Ltd., England.
J. G. Brill Co.
Lima Locomotive & Machine Co., U. S. A.
The London Phosphor, Copper & Bronze Co.
Manning, Maxwell & Moore, Inc., U. S. A.
Power Pulley Co., Ltd., England.
Power Gas Corporation Ltd., England, (except bituminous plants)
Ransomes, Sims & Jefferies, Ltd., England.
Rhodes Motors Ltd., England
Sullivan Machinery Co., U. S. A., South China.
Turner Bros. Ltd., England, North China.
Wason Manufacturing Co., U. S. A.
The Wolf Co., U. S. A.
Wolverine Motor Works, U. S. A.
Water Tube Boiler Co., Ltd., England



MALLET TYPE ENGINE FOR THE PEKING-KALGAN LINE MADE BY THE NORTH BRITISH LOCOMOTIVE CO.

# North British Locomotive Co., Ltd.

HYDE PARK WORKS (Late NEILSON, REID & CO.)

QUEEN'S PARK WORKS (Late DUBS & CO.)

ATLAS WORKS (Late SHARP, STEWART & CO., Ltd.)

Head Office and Administration Building: SPRINGBURN, GLASGOW

LONDON OFFICE:—17, VICTORIA STREET, WESTMINSTER, S. W.

Telegrams: LOCO., GLASGOW

BUILDERS OF ALL KINDS OF

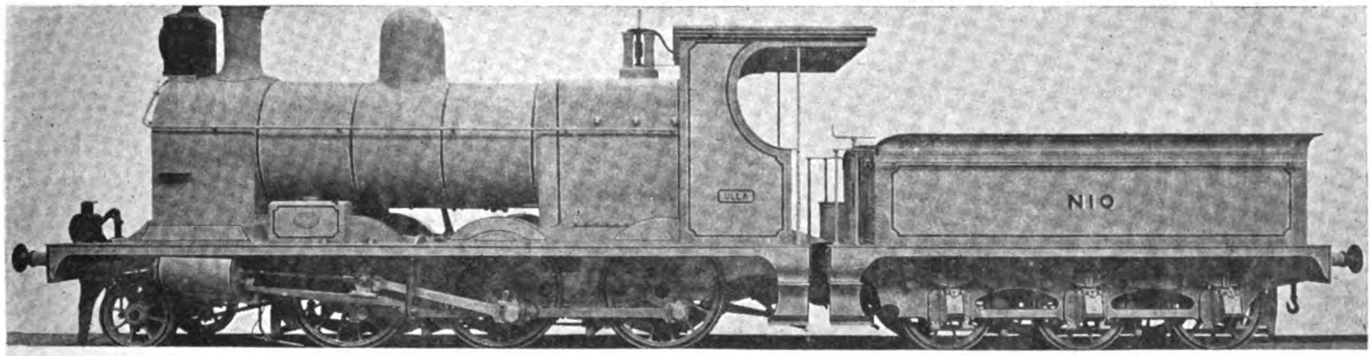
## Locomotive Engines and Tenders Suitable for any Gauge of Railway

| ANNUAL CAPACITY: | WORKSHOPS EQUIPMENT: | OUTPUT NOW EXCEEDS: |
|---|---|---|
| 700 | 8000 | 19,000 |
| MAIN LINE LOCOMOTIVES | MEN | LOCOMOTIVES |

## AGENTS IN THE EAST

**China: Messrs. Jardine Matheson & Co., Ltd., Hongkong and China**

**Japan and Manchuria: Messrs. Okura & Co., Tokyo**



TYPE OF NORTH BRITISH LOCOMOTIVE SUPPLIED TO THE TIENTSIN-PUKOW—SOUTHERN SECTION

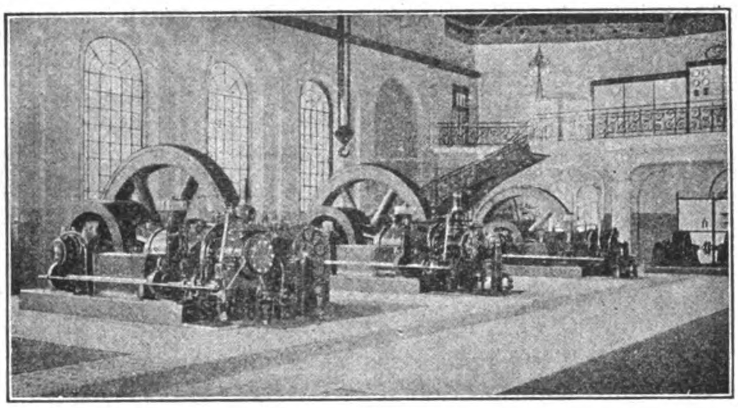
## THE LARGEST LOCOMOTIVE WORKS IN EUROPE

SHANGHAI
HONGKONG
CANTON
HANKOW

# MELCHERS & CO.

BREMEN
TIENTSIN
ICHANG
CHUNGKING

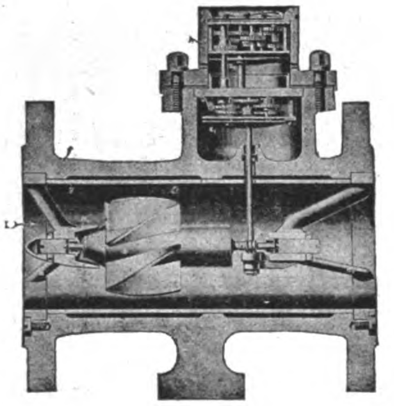
*Cable Address:* *MELCHERS.*

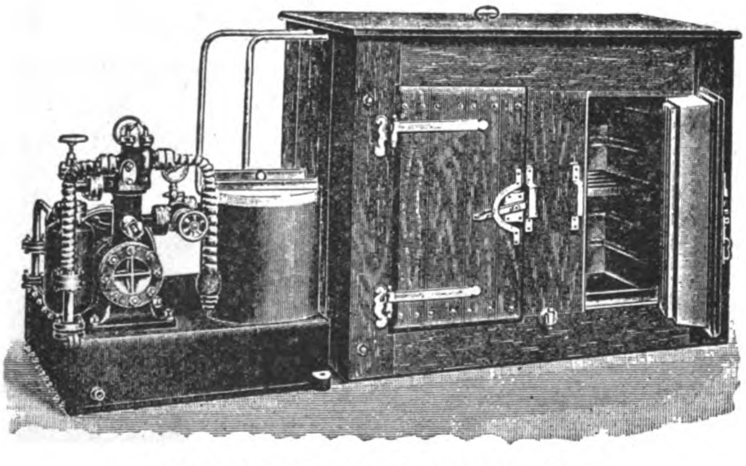


ELECTRIC POWER STATION WITH 3,400 HP. KOERTING'S GAS ENGINES
SUCTION GAS PLANTS UP TO 500 HP. FOR ALL FUELS

**Waterworks**
Designing and Construction.
Pumps—Pipes.
*Carl Francke, Bremen.*

**Watermeters.** Wet running
Dry running and Woltmann
System.
*Breßlauer Metallgießerei,*
*Breslau.*





ICE-MAKING AND REFRIGERATING PLANTS

from the smallest to the largest capacities. Small Ice-making and Refrigerating Plants for Hotels, Hospitals, Private Houses "System Ziegler." Safe—Reliable—Simple.

## *General Agents for:*

High Speed Steam Engines "Roland"
Steam Turbines System "Zoelly"
Ship machinery, as Winches, Pumps, Engines
*Norddeutsche Maschinen & Armaturen Fabrik*
*G. m. b. H. Bremen*

Diesel Motors, Gas Engines, Suction Gas Plants
Koerting's Injectors, Ejectors, Heating Plants
*Gebr. Koerting, A. G. Koertingsdorf Hannover*

Watertube Boilers, System Garbe, Marine Boilers
*Duerr & Co., Ratingen*

Dredgers for Harbour and River Work, Barges
Steam Tugs, Gold Dredgers, Hoppers
*Werf Conrad, Haarlem*

Marine Motors "Kromhout," Motor Boats
*Gebr. Goedkoop, Amsterdam*

Slow Speed Steam Engines, Condensing Plants
*Maschinenbau Anstalt A. G. Goerlitz*

Electrical Fittings, "Bergmann" Tubes, Meters
*Bergmann Electricitaets Werke, A. G. Berlin*

Electric Cables & Wires, Telephone & Telegraph Wires
*Dr. Cassierer, Charlottenburg*

Electric Fans, Small Motors, X Ray Apparatus
*Dr. Max Levy, Berlin*

Telephones, Central Stations, Bells
*Telephonfabrik vorm. F. Berliner, Hannover*

Textile Machinery, Bleaching & Dyeing
Finishing & Printing Plants for Cotton, Linen, Wool
*Fr. Gebauer, Berlin*

Ice-making & Refrigerating Plants, Centrifugal.
*Leopold Ziegler, Berlin*

Wood-working Machinery, *Teichert & Sohn*

"Atlas" Cranes, Electric Cranes, Differential Blocks
*Eduard Weiler, Berlin*

Steel Constructions, Steel Bridges, etc.
*Louis Eilers, Hannover*

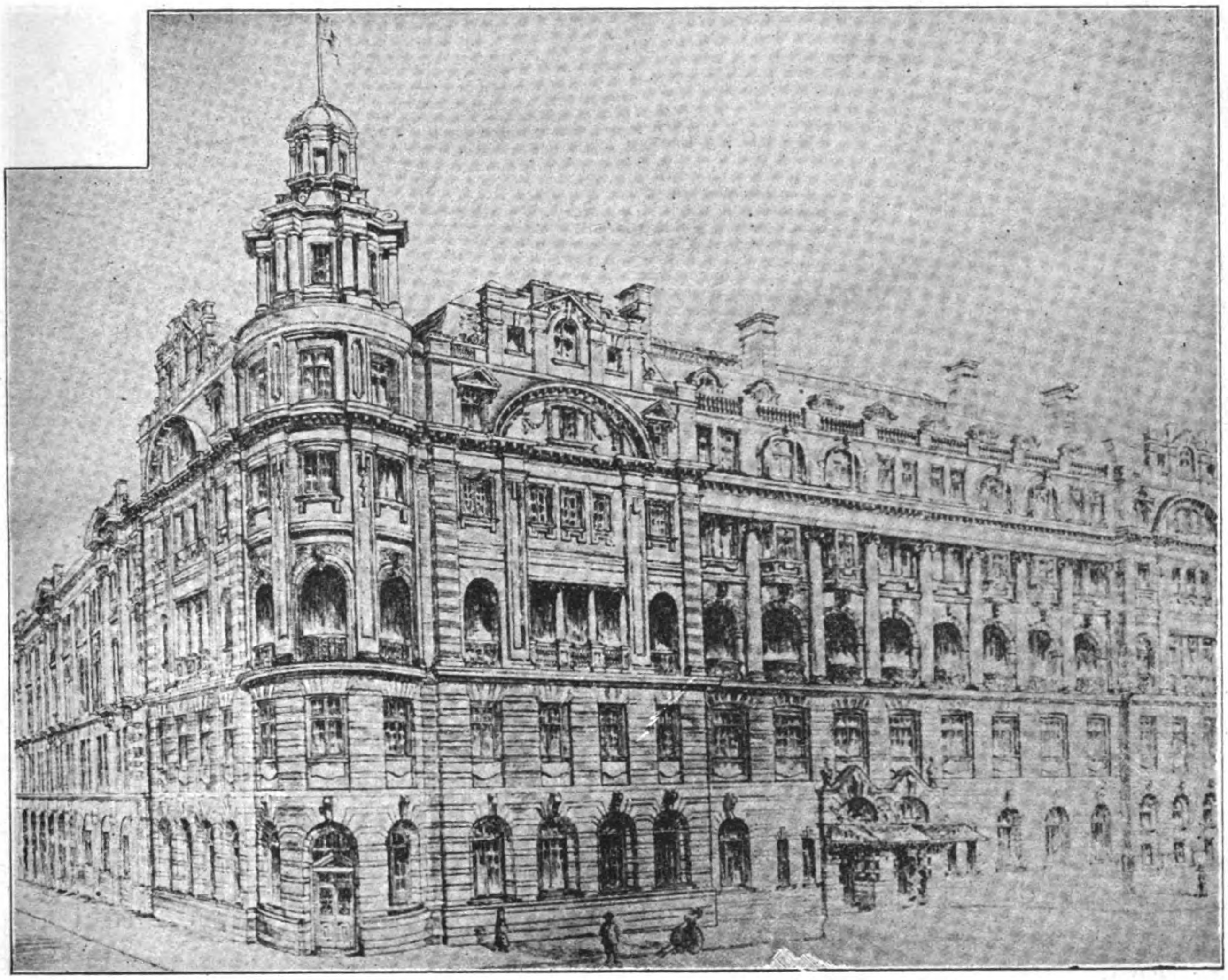
Watermeters, Woltmann Meters
*Bresslauer Metallgiesserei, Breslau*

# ASTOR HOUSE HOTEL CO., LTD.

Cable Address:
"ASTOR" SHANGHAI
Chinese Name: "LEE-ZO"

**WILLIAM LOGAN GERRARD**
Manager.

Codes Used:
A. B. C. 5th EDITION
WESTERN UNION



*Telephone:*

| | | | |
|---|---|---|---|
| GENERAL OFFICE | 200 | MANAGER'S | 903 |
| SECRETARY'S OFFICE | 500 | GUESTS' | 904 |

# THE WALDORF-ASTORIA OF THE ORIENT

**Largest, Best and Most Modern Hotel in the Far East. Main Dining Room Seats 500 Guests, and is Electrically Cooled. Two hundred Bedrooms with Hot and Cold Baths Attached to Each Room.**
**Cuisine Unexcelled; Service and Attention Perfect. Summer Garden; American Bar and Billiard Room; Lounge, Smoking and Reading Rooms; Barber and Photographer on the Premises.**

*Rates from $6; Special Monthly Terms*

## SHANGHAI, CHINA

# United States Steel
## PRODUCTS EXPORT CO.

**24a Kiangse Road, Shanghai**

## Exporters of the Products of

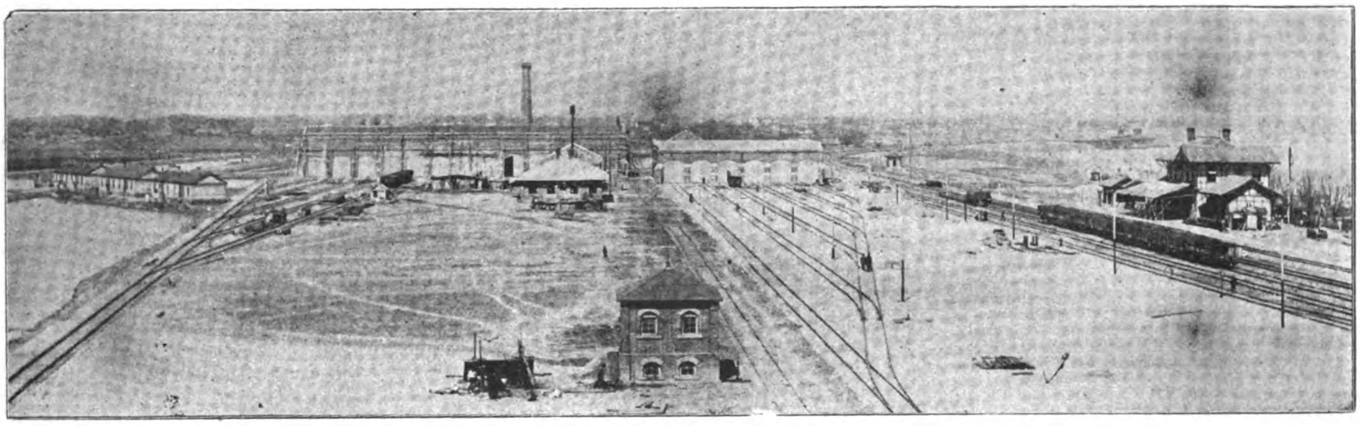
*Carnegie Steel Co.*
*Lorain Steel Co.*
*Illinois Steel Co.*
*Shelby Steel Tube Co.*
*National Tube Co.*
*Western Tube Co.*
*Tennessee Coal & Iron Co.*
*American Sheet & Tin Plate Co.*
*American Steel & Wire Co.*
*American Bridge Co.*

## Manufacturers of

Bridges, Steel Rails, Bolts and Spikes, Switches and Crossings, Steel Cross Ties, Schoen Steel Wheels, Forged Axles, Coil Springs, Tubular Poles, Buildings, Steel Plates, Shapes, Concrete Reinforcement, Shafting, Merchant Bars, Tool Steel, Hoops, Corrugated Sheets, Tin Plate, Boiler Tubes, Gas, Steam and Water Pipe, Pipe Fittings, Wire Nails, Wire Rope, Steel and Copper Wire, Wire Fencing, Horse Shoes,

CARNEGIE STEEL SHEET PILING

*Designs and Estimates Submitted for Bridges and Steel Buildings Erected Complete*

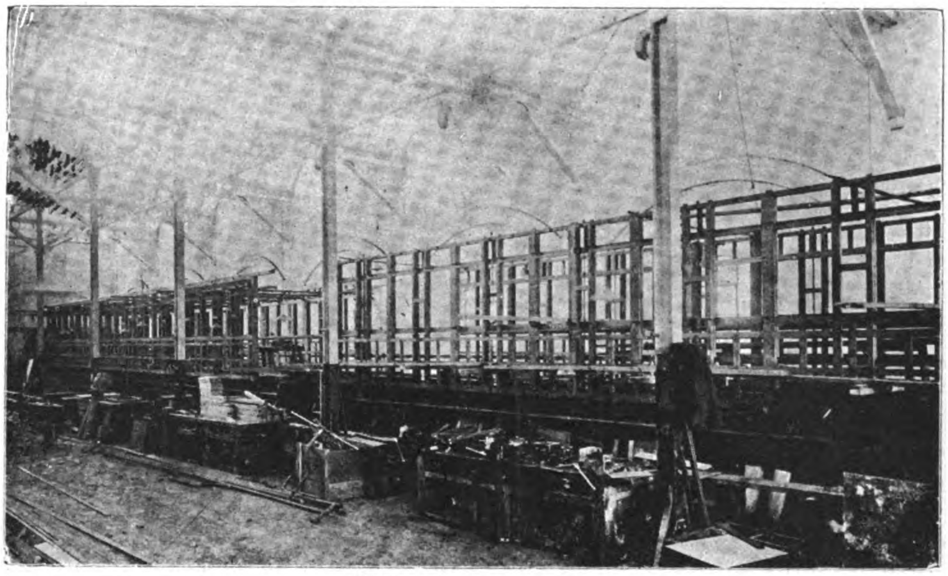


# WOOSUNG CAR SHOPS

OF THE

## SHANGHAI -:- NANKING -:- RAILWAY

LOCATED AT WOOSUNG AT ENTRANCE TO WHANGPOO RIVER, SHANGHAI. DEEP WATER WHARF WITH EVERY FACILITY FOR HANDLING HEAVY MATERIAL.



VIEW OF ERECTING SHOP

THESE SHOPS ARE FULLY EQUIPPED WITH THE MOST MODERN PLANT AND APPLIANCES FOR THE CONSTRUCTION OF CAR BODIES AND SETTING UP CAR PARTS ORDERED FROM ABROAD, ALL UNDER EXPERT SUPERVISION : : : : : : : : : : : : : : : : : :

**CARS FOR THE NANKING CITY RAILWAY, KIANGSU RAILWAY AND THE ANHWEI RAILWAYS WERE SET UP AND FINISHED AT THESE WORKS**

CORRESPONDENCE WITH OTHER RAILWAY COMPANIES SOLICITED

# SHANGHAI NANKING RAILWAY

Managing Director
TAOTAI CHUNG MUN-YEW

General Manager
A. W. U. POPE

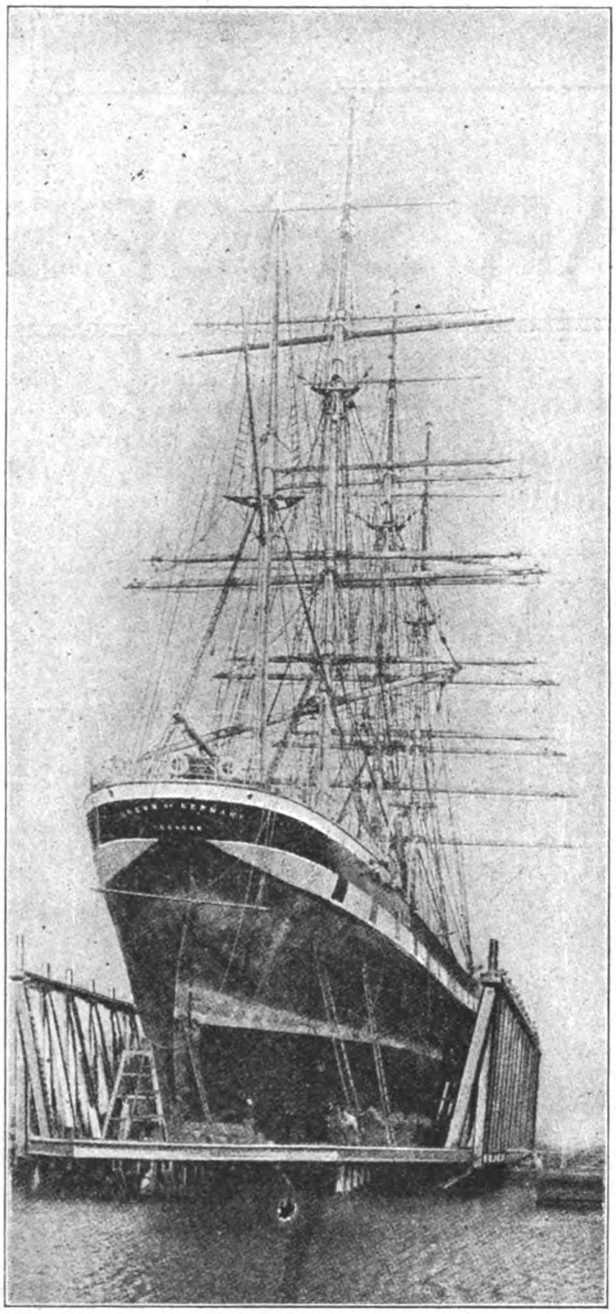
# The Tsingtauer Werft Tsingtau

CHINA

**Largest floating dock in China**

**Capacity 16000 tons**

for ships up to 460 feet length.



Builders and repairers of ships and engines.

All kinds of repairs done with despatch.

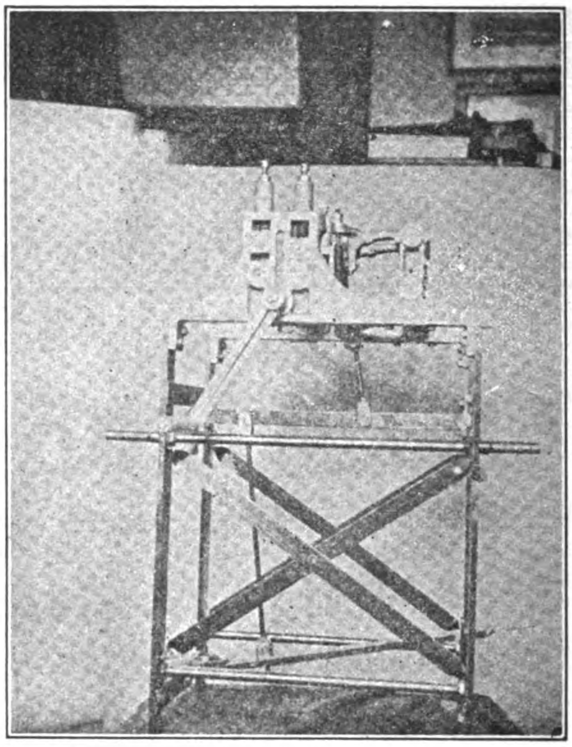
Electric crane to lift 150 tons.

**Telegraphic address:** WERFT TSINGTAU

**Codes used: A.B.C. Code, 5th Ed.** A-1 Code.

# THE "DAILEY"

**Patent Hand-Power Hemp Cleaning Machine**



**WEIGHT 172 LBS.**

**Capacity 150 lbs. of clean, white Brilliant Fiber per day.**

FOR PRICES AND PARTICULARS

*Address*

## *C. E. DAILEY*

**82-92 BEAVER ST. NEW YORK**

# The Philippine Journal of Science

Edited by

PAUL C. FREER, M. D., Ph. D.

*A Journal devoted to the scientific work done in the Philippine Islands by the members of the Staff of the Bureau of Science, and by other scientific workers.*

**PUBLISHED BY THE BUREAU OF SCIENCE OF THE PHILIPPINE ISLANDS**

Volume V will begin January, 1910:

| | | |
|---|---|---|
| The entire Journal | $5.00 | U. S currency |
| Section A, General Science | 2.00 | U. S. currency |
| Section B, Medical Sciences | 3.00 | U. S. currency |
| Section C. Botany | 2.00 | U. S. currency |
| Single Numbers | .50 | U. S. currency |

Each section is separately paged and indexed.

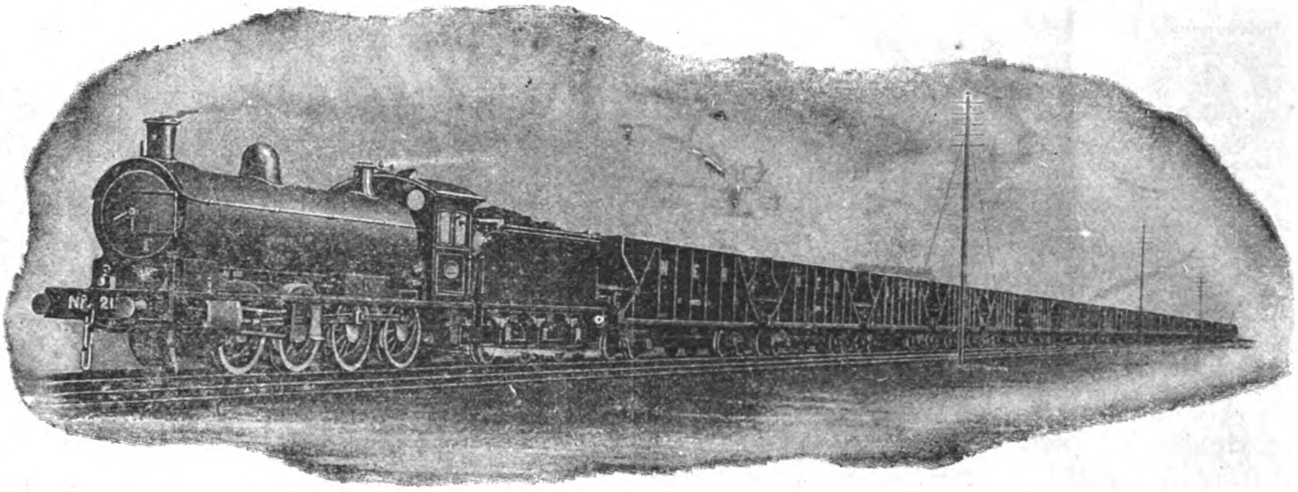
A limited number of unbound copies of previous volumes are available and can be secured from the Director of Printing at the following rates: Volume 1, 1906 (not divided into sections) $5, U. S. currency; Supplement to Volume 1, $2.50, United States Currency; Volume I (without supplement), $3, United States currency; all later volumes at current subscription prices.

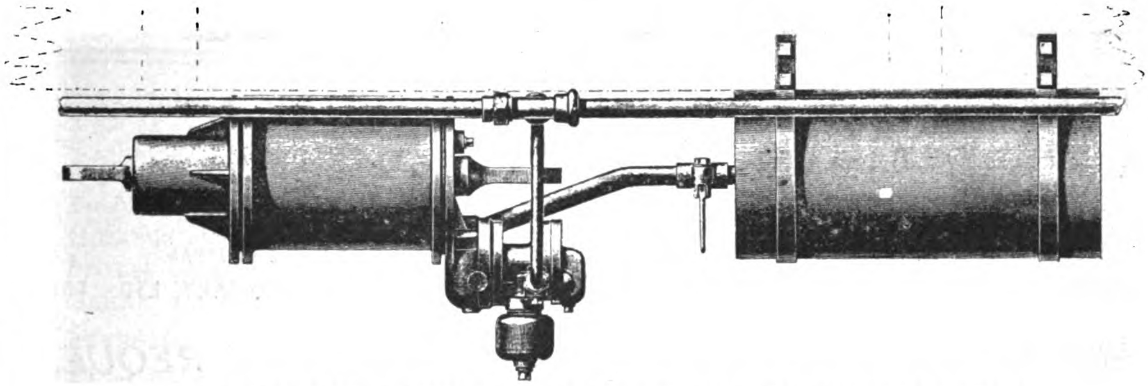
SUBSCRIPTIONS may be sent to the DIRECTOR OF PRINTING, Manila, P. I.

# THE WESTINGHOUSE BRAKE

**N. E. R. Goods Train fitted with the Westinghouse Brake and Friction Draft Gear.**

**STANDARD ON MORE RAILWAYS THAN ANY OTHER BRAKE**





APPLICATION OF IMPROVED TRIPLE VALVE TO CHINESE RAILWAY CARRIAGES OR WAGONS

THE 3½" IMPROVED WESTINGHOUSE TRIPLE VALVE: SIMPLE IN CONSTRUCTION AND ESPECIALLY DESIGNED TO MEET THE REQUIREMENTS OF FAR EASTERN RAILWAYS

Manufactured and furnished solely by

**The Westinghouse Brake Co., Ltd.**

London

JARDINE MATHESON & CO., LTD.

Sole Agents for China

# THE PREMIER COMPANY OF THE EAST

Agencies from London to Manchuria

EXTRACT FROM 12th ANNUAL REPORT
SHEWING A RECORD PROGRESS : : :

| | |
|---|---|
| Insurance in Force | $37,855,885 |
| Assets | $ 8,415,250 |
| Income | $ 3,566,559 |
| Total funds | $ 8,216,812 |

*Low Rates!*

*Unconditional Policy!*

*Largest Bonuses!*

Registered under Hongkong Ordinances and under the Life Assurance Companies' Acts, England; and offers its Home-Returning policyholders the Double Advantage of being able to pay their Premiums to the Company's London and American Agents, Messrs. Thomas Cook and Sons, at reduced rates.

THE

# Western-Electric

COMPANY

FURNISHES EQUIPMENT FOR EVERY ELECTRICAL NEED

Manufacturers of the celebrated

"BELL" TELEPHONES

Distributors of Electrical Apparatus and Materials of all Kinds

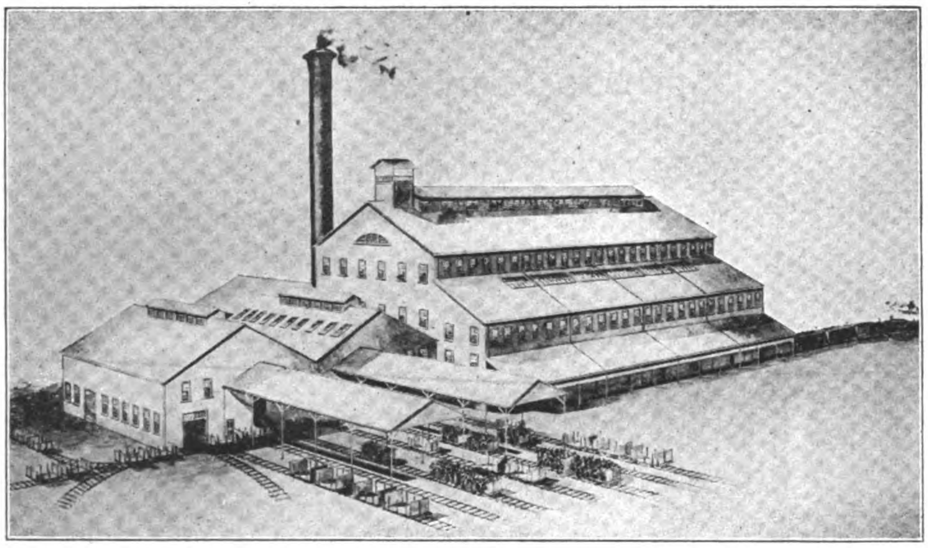
AGENTS FOR CHINA
ARNHOLD, KARBERG AND COMPANY, SHANGHAI

AGENTS FOR JAPAN
NIPPON ELECTRIC COMPANY, LTD., TOKYO

CATALOGUES, BULLETINS AND ESTIMATES FURNISHED ON REQUEST

# HONOLULU IRON WORKS COMPANY

Established 1852 HONOLULU, TERRITORY OF HAWAII Rebuilt 1899



EWA MILL DESIGNED BY HONOLULU IRON WORKS COMPANY, FOR A CAPACITY OF 2,400 TONS CANE PER DIEM

BUILDERS OF

Sugar Machinery

OF ALL DESCRIPTIONS

Sugar Mills
Evaporators
Tanks
Cane Cars
Vacuum Pans
Steam Boilers
Riveted Steel Pipe
Cane Unloaders, Etc.

Consulting Engineers, Designers and Contractors

FOR COMPLETE SUGAR FACTORIES

# HONOLULU IRON WORKS COMPANY

Eastern Office, 11 Broadway, NEW YORK

Cable Address: "HONIRON," Honolulu Codes: A. B. C. 4th and 5th Editions and Western Union

**Have you ever stopped**

*to consider that a lubricant that splashes or drips increases the fire risk of a building?*

Increased fire risk means *increased fire insurance rates.*

**ALBANY GREASE**

**neither splashes nor drips.**

That's why five underwriters will allow a *lower* rate on buildings containing machinery lubricated with ALBANY GREASE than on buildings containing oil lubricated machinery.

ALBANY GREASE effects many other economies. That's why it's the *cheapest* of all lubricants to *use.*

*You can readily prove, at our expense, what an all-around economical lubricant ALBANY GREASE is for all machinery. Just send us pipe tap, depth of oil hole, where used and name of firm. An Albany Grease cup and trial package of ALBANY GREASE will come to you free.*

**ALBANY LUBRICATING COMPANY**

***Sole Makers***

ADAM COOK'S SONS, ***Props.*** 313 WEST ST., NEW YORK,

# HOTEL DE FRANCE

PLAZA GOITI, MANILA

Best Appointed Hotel in Manila in Heart ot Business Section.—Large Sample Rooms.—Hot and Cold Water.—Elegant Banquet Hall.—Private Dining Rooms.—French Cuisine.—Guides for Tourists.—Interpreter meets all Steamers.

**Cable Address: CAMS**

**A High Grade Dry Cell**

25 AMPERES OVER 1½ VOLTS

*Guaranteed*

Specially adapted to cope with Oriental Climatic Conditions.

**Replace All Others Wherever Used**

# SOLIGNUM

THE RAVAGES OF THE **WHITE ANT**, DECAY, FUNGUS AND DRY ROT DESTROY PROPERTY TO THE VALUE OF MILLIONS YEARLY

THE ONLY SURE AND RELIABLE PROTECTION IS

# "SOLIGNUM"

CAN BE APPLIED IN MANY SHADES OF COLOR TO STONE, WOOD OR BRICKWORK. SOLD IN 5 AND 10 GALLON DRUMS AND 40 GALLON CASKS

# PROTECTS

*For Sale by* **THE CHINA IMPORT EXPORT LUMBER CO., Ltd.** SHANGHAI, HANKOW, TIENTSIN, TSINGTAU

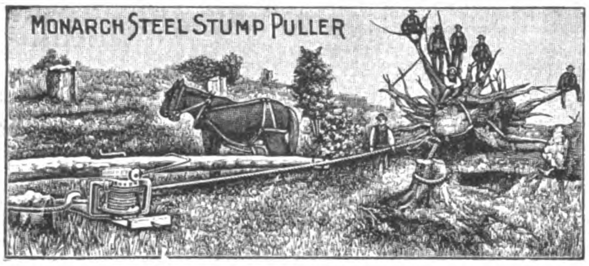
*Hongkong and Canton: SIEMSSEN & CO. -:- Foochow: SIEMSSEN & KROHN -:- Amoy: PASEDAG & CO.*

**Launches complete ready to run. Engines operate on KEROSENE, (paraffin), Gasoline, (petrol) distillate (COAL OIL) alcohol or naptha**
**Any one can operate them**
**All launches guaranteed and tested**

High grade pleasure and service motor boats 16, 18, 20, 23, and 27 feet long, ready for use with high grade two cycle reversible Detroit engines installed. Start without cranking and need no lamp; boats absolutely non-leakable, non-sinkable, and non-rustable. NEED NO BOATHOUSE, CANNOT BE EATEN INTO BY WORMS OR BUGS, used throughout the world. Agencies with first-class reputable business houses particularly desired. Bank references exchanged. Will quote prices in your own currency, freight prepaid to any part of the world. Write TO-DAY for our FREE ILLUSTRATED CATALOG giving all information in regard to constructions, dimensions, equipment, etc., and SPECIAL PRICES. UNSOLICITED TESTIMONIALS FROM USERS OF MICHIGAN STEEL IN ALL PARTS OF THE WORLD SENT ON REQUEST.

**MICHIGAN STEEL BOAT CO.,**
Dept. T.—1256-1500 Jefferson Avenue,
DETROIT, MICHIGAN, U. S. A.

**MONARCH STEEL STUMP PULLERS**




Will pull green stumps 7 feet in diameter and will clear from 1 to 5 acres a day. GUARANTEED 700 horse power and against breakage. ONLY stump Puller Factory in the world making their own STEEL CASTINGS. For catalog and discounts, address Dept.

**ZIMMERMAN STEEL CO., Lone Tree, Iowa, U. S. A.**

**EASTERN ENGINEERING COMPANY**

ARCHITECTS AND ENGINEERS

Special attention paid to Reinforced Concrete Designing : : : : : :

**Correspondence Solicited**

Rooms 10 and 11 LACK & DAVIS Bldg. Manila, P. I.

# J. G. WHITE & COMPANY

INCORPORATED

***Engineers, Contractors***
***Purchasing Agents***
***Managers***

**43-49 Exchange Place, New York, N. Y.**

*Alaska Commercial Building*
*SAN FRANCISCO, CALIFORNIA*

*First National Bank Building*
*CHICAGO, ILLINOIS*

LONDON CORRESPONDENTS

**J. G. WHITE & COMPANY, Limited, 9 Cloak Lane, E. C.**

# The Han-yeh-ping Iron and Coal Co., Ltd.

**Telegraphic Address**
**"HANSTEEL"**

**Codes used:**
**A.B.C. 5th Ed., Western Union and Engineering Telegraph Codes.**

**HEAD OFFICE**
**110, Bubbling Well Road, Shanghai, China.**

The following Works and Mines, the property of the Company, are in active operation:—
HANYANG IRON AND STEELWORKS—situated in Hanyang (Hankow).
PINGHSIANG COLLIERY—situated in Pinghsiang, at border between Kiangsi, and Hunan Province.
TAYEH IRON MINES—situated in Tayeh on the Yangtsze River 72 miles below Hankow.

## HANYANG IRON AND STEEL WORKS

**Works Head Office in Hanyang**

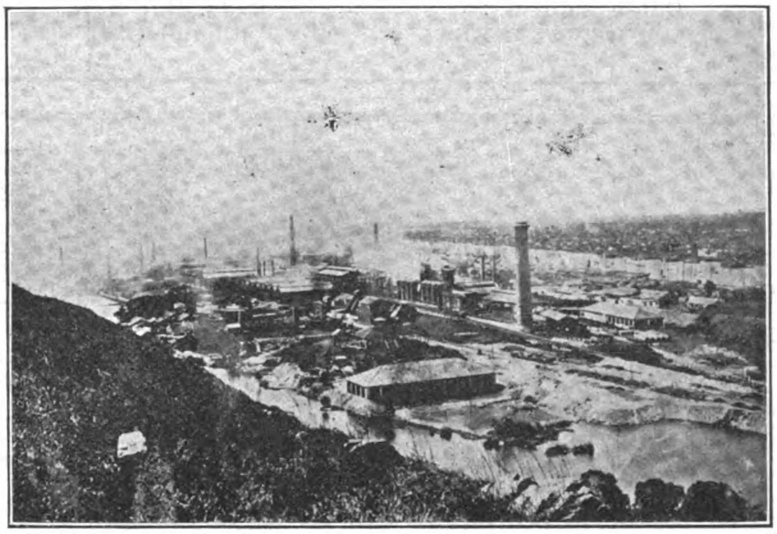
**Sales Office:—45 Szechuen Road, Shanghai, and also in Hongkong and Canton.**
**Representative in Australia:—*L. H. DRAKEFORD.***

PIG IRON

*Foundry*—Largely exported to Japan and America, where it finds the highest favor—Sold by Grain—Can be cast over again.
*Basic Iron*—For steel making also largely exported to America and Japan.

STEEL MATERIALS

All steel is made by the Siemens-Martin process and supplied to pass any standard tests.
*Railway Supplies*—Standard-Gauge Rails from 50 lbs. per yard (25 kg. per m.) up to 100 lbs. (50 kg. per m.)
*Narrow Gauge Rails*—from 16 lbs. per yard (8 kg. per m.) up to 50 lbs. (25 kg. per m.)
*Fishplates, Spikes, Bolts and Nuts.*
*Structural Shapes*—Bars, Plates and Angles, etc.



SHIPPING DEPARTMENT

The light draft steamer *Han-ping*, fitted with electric lights and strong derricks and running between Hankow and Shanghai, is the best steamer to handle heavy machinery in the Yangtsze River.

WHARF—The Company owns a wharf in Shanghai, situated at Nam Ma Tau on the Pootung Side a little below the Kiangnan Arsenal, with a frontage of about 900 feet and offering excellent accommodation for the storage of Coal or Timber.

For particulars and terms, apply to the Sales Office, No. 45 Szechuen Road, Shanghai.

## PINGHSIANG COLLIERY

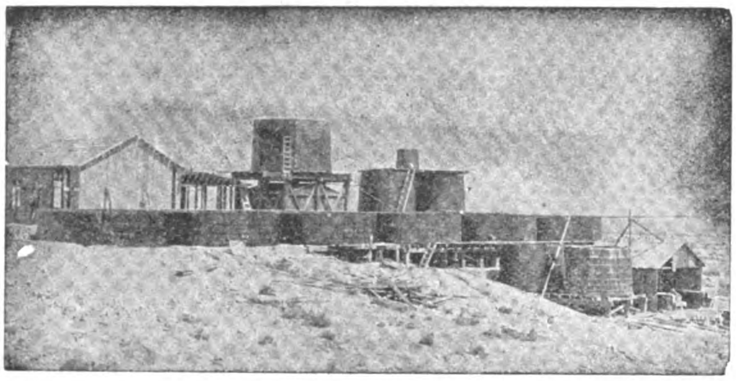
**Head Offices and Shipping and Sales Offices:**

**No. 1 Poyang Road, Hankow =:= Sales Office, Shanghai, 45 Szechuen Road**

**COAL**—Best Steaming Coal—Navy Lump, Run of the Mines, and Washed Nuts. Stocks kept in Yochow, Hankow, Kiukiang, Wuhu, Nanking, Chinkiang, and Shanghai.
Contracts made with the following Companies for the supply of Bunker Coal:—
Messrs. Butterfield & Swire, The Hamburg Amerika Linie, The East Asiatic Co., Ltd., Tung Kee & Co., The Asiatic Petroleum Co., The Standard Oil Co. of New York, and the Robert Dollar Co.
Suppliers also to the following Navies:—
The Imperial Chinese Navy, The British, German, and French Navies.
**COKE.**—Foundry and Blast Furnace—Exported also to Japan and America.

**For particulars as regards prices, etc., application may also be made to Johnsen & Herlofson, 8 Kiangse Road, Shanghai.**

WHAT DO YOU KNOW ABOUT
## WOOD WATERPIPE AND TANKS?



AS MANUFACTURED BY THE
## PACIFIC TANK & PIPE CO.
SUCCEEDING
NATIONAL WOOD PIPE CO. -:- PACIFIC TANK CO.
OUR SPECIALTIES
Wooden Water Pipe For
**Power Plants, Irrigation Systems, City Water Supply**

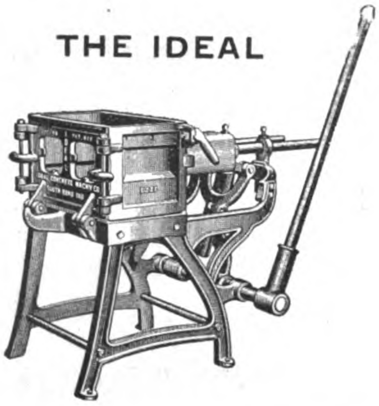
Machine Banded Pipe in Sizes From 2-in. to 24-in. diameter. Continuous Stave Pipe In Sizes From 12-in. to 12-ft. Head. Pressures Up To 400 ft.

Send For Our Latest Printed Matter

**318 MARKET ST., SAN FRANCISCO, CA., U. S. A.**

---

THE IDEAL



## THE LAMBERT-SPRINGER CO., INC.
### Fortunes for the Enterprising

**The Hollow Concrete Block Has Come to Stay. It is Economical, Sanitary and Attractive. The Ideal Concrete Machine Makes Blocks of any Design—Machines Available at Small Cost—Suited to Construction Work in Tropics.**

**99—107 Plaza Santa Cruz, Manila**

| Cable Address: LAMBERTMES | P. O. Box 885 Phone 433 | Codes: Western Union A. B. C. 5th Ed. and Private |
|---|---|---|

---

# Malthoid Roofing
AND
## P & B PRODUCTS

**MALTHOID ROOFING** is specified by the best Architects and Engineers and used by the best contractors on all notable buildings in the Far East.

**MALTHOID ROOFING** is past the experimental stage and is a recognized standard of roofing.

When laid according to our specifications it is guaranteed.

For booklet and samples write to your nearest Agent.

**FAR EASTERN AGENCIES:**

SHANGHAI - - - Messrs. Samuel, McGregor & Co., Ltd.
TIENTSIN, China - - - Messrs. William Fobes & Co.
HANKOW, China - - - Messrs. Westphal, King & Ramsay, Ltd.
HONGKONG and CANTON - - - Messrs. Arnhold, Karberg & Co.
VLADIVOSTOCK, Kharbin, Kharbarwjsk and Blagovestcheonst - - - Messrs. Kunst & Albers.
TOKYO, Kobe, Dalny and Seoul - - - Messrs. Fujiwara & Co.
SINGAPORE and PENANG - - - Paterson, Simons & Co., Ltd.
BANGKOK, Siam - - - Messrs. G. Kluzer & Co.
SAIGON - - - Messr. Allitine & Co,
Java and Dutch East-Indies "LINDETEVES Sourabaya and Samarang

**DISTRIBUTERS FOR THE PHILIPPINES**
## CALIFORNIA MANILA LUMBER COMMERCIAL CO.
**Offices: LACK & DAVIS Bldg. Salesrooms under HOTEL METROPOLE**

## "FIGHTING BOB"

Admirals
Commanders
Lieut.-Commanders
Ensigns
Cadets

Divinos
Perfectos
Regalias
Bouquets
Londres

## "JOSE RIZAL"

Generals
Colonels
Majors
Captains
Lieutenants

Perfectos
Sergeants
Corporals
Privates
Londres

**BY MEN WHO KNOW** the value of a good cigar, these two brands are particularly appreciated. They represent the real worth of a cigar in quality and workmanship; the two most essential features of a good smoke. They are manufactured from the most carefully selected leaf grown in the rich fields of Isabela Province, and no expense is spared in the preparation of the filler as well as the wrapper, and the result is a cigar that is as perfect as is possible to manufacture. : : : : : :

**MILD, FRAGRANT SATISFYING** Three important requisites so often found lacking in the usual run of cigars. That's why they sell. Smoke any shape in critical comparison with the best cigar you know of equal money value and prove to your own satisfaction that these cigars are a revelation of excellence in point of aroma as well as shape. Don't be put off when the dealer offer you "something just as good." Remember the money is yours, and that dealers seldom offer substitutes for your benefit. : : : : : : : : : : : : : :

FOR SALE BY ALL LEADING HOTELS, CLUBS, BARS AND FIRST CLASS CIGAR STORES

**KIOSKO HABANERO**
*27 ESCOLTA*

Walter E. Olsen & Co.
MANILA, P. I.

**KIOSKO RIZAL**
*168-170 ESCOLTA*

# BANCO ESPAÑOL FILIPINO

(ESTABLISHED 1851)

## Depository for the Government of the Philippine Islands

Capital Fully Paid up ....... ₱2,596,000.00
Reserve Fund .......................... 408,715.63

## *London Bankers*

***THE NATIONAL BANK OF SCOTLAND, LTD.***

Buys and sells Drafts on Spain, France, Germany, England and other countries.

**TELEGRAPHIC TRANSFERS**

Interest allowed on fixed deposits and current accounts at usual rates.

**GENERAL BANKING BUSINESS**

BRANCH IN ILOILO

PRESIDENT
JOHN S. HORD

VICE-PRESIDENT
GONZALO MARZANO

**NO. 10 PLAZA DE CERVANTES**

THE CHINESE ENGINEERING AND MINING Co., LTD.

# KAIPING COAL COKE

FOR
ALL
INDUSTRIAL AND HOUSEHOLD
PURPOSES

CARGO
SHANGHAI TO MOUKDEN
CARRIED AT
THROUGH RATES

THROUGH PASSENGER SERVICE WITH TIENTSIN,
PEKING, SHANHAIKWAN AND NEWCHWANG VIA CHINWANGTAO, RETURN TICKETS
INTERCHANGEABLE WITH HAMBURG-AMERICA LINE. CIRCULAR TOURS TO
TIENTSIN AND PEKING VIA HANKOW AND LUHAN RAILWAY
RETURNING BY SEA OR VICE VERSA

# FIREBRICKS

FIRECLAY
AND
SPECIAL BLOCKS
OF ALL KINDS
SALT GLAZED STONEWARE PIPES

## THE CHINESE ENGINEERING AND MINING CO., LIMITED

Head Office: TIENTSIN.
SHANGHAI, 1 Jinkee Road,
HONGKONG, Alexandra Buildings

CHEFOO: Anz & Co.
WEIHAIWEI: Lavers & Clark.
HANKOW: C. Monbaron, Esq.
DALNY: Cornabe, Eckford & Co.
TSINGTAU, NEWCHWANG, MUKDEN: Arnhold, Karberg & Company.
PEKIN: J. Redelsperger, Esq.
SINGAPORE: Adamson, Gilfillan & Company, Ltd.

AGENCIES
The addresses of the Company's Agencies are as follows:

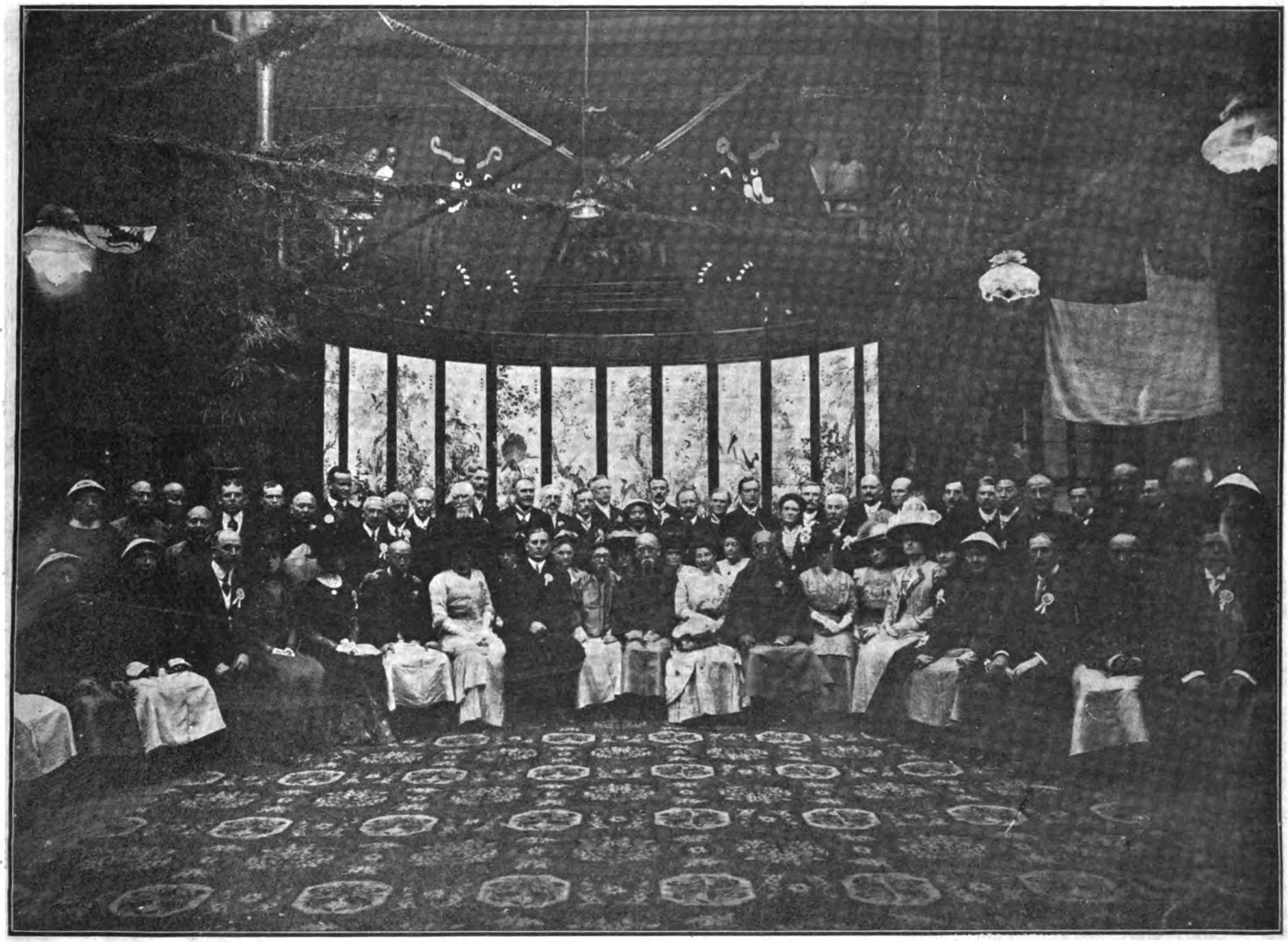
| | | Telegraphic Address. |
|---|---|---|
| TIENTSIN | C. E. & M. Co., Ltd., Office | MAISHAN |
| TONGKU | do. | MAISHAN |
| CHINWANGTAO | do. | MAISHAN |
| HONGKONG | do. Alexandra Buildings | MAISHAN |
| SHANGHAI | do. 1 Jinkee Rd. | SILI |
| CHEFOO | Anz & Co. Agents | MAISHAN |
| DALNY | Cornabe, Eckford & Co. ,, | CORNABE |
| WEIHAIWEI | Lavers & Clarke ,, | MAISHAN |
| TSINGTAU | Arnhold Karberg & Co. ,, | MAISHAN |
| NEWCHWANG | Arnhold Karberg & Co. ,, | MAISHAN |
| MUKDEN | Arnhold Karberg & Co. ,, | MAISHAN |
| HANKOW | C. Monbaron ,, | MONBARON |
| SINGAPORE | Adamson, Gilfillan & Co., Ltd. ,, | GILFILLAN |
| PEKING | J. Redelsperger ,, | REDELSPERGER |
| LONDON | C. E. & M. Co., Ltd., Office 22 Austin Friars E. C. | KAIMACS |
| BRUSSELS | do. 48 Rue de Namur | KAIPING |

China, Manchuria, Japan, Indo-China, Siam, Straits Settlements, Malay States, Burma, India, Malaysia, and the Philippines

# THE FAR EASTERN REVIEW

VOL. VII.—No. 6. MANILA, SHANGHAI AND YOKOHAMA, NOVEMBER, 1910. 50 Centavos Philippine Currency 25 Cents. U. S. C.

## VISIT OF THE AMERICAN COMMERCIAL COMMISSION



Reception Held at the Residence of Taotai Chow Ching-seng, Shanghai, in Honor of the Honorary Commissioners from the Associated Chambers of Commerce of the Pacific Coast

## ENGINEERING
## COMMERCE FINANCE

# Hongkong and Shanghai Banking Corporation

***DEPOSITORY OF THE GOVERNMENT OF THE PHILIPPINE ISLANDS***

**Capital (Paid in Cash)........ $15,000,000** | **Silver Reserve Fund............$16,000,000**
**Sterling Reserve Fund..... $15,000,000** | **Reserve Liability of Prop'rs.$15,000,000**

COURT OF DIRECTORS:

G. BALLOCH, Esq.
Chairman.
R. SHEWAN, Esq.
Deputy Chairman.
F. H. ARMSTRONG, Esq.
G. FRIESLAND, Esq.
HON. MR. HENRY KESWICK.
C. R. LENZMANN, Esq.
S. A. LEVY, Esq.
F. LIEB, Esq.
G. H. MEDHURST, Esq.
W. LOGAN, Esq.
H. A. SIEBS, Esq.
ANDREW FORBES, Esq.

Head Office, Hongkong and Shanghai Banking Corporation, Hongkong

BRANCHES AND AGENCIES:

AMOY
BANGKOK
BATAVIA
BOMBAY
CALCUTTA
CANTON
COLOMBO
FOOCHOW
HAMBURG
HANKOW
HONGKEW
(SHANGHAI)
HONG-KONG
IPOH
JOHORE
KOBE
KUALA LUMPUR
LONDON
LYONS
MALACCA
MANILA
NAGASAKI
NEW YORK
PEKING
PENANG
RANGOON
SAIGON
S. FRANCISCO
SHANGHAI
SINGAPORE
SOURABAYA
TIENTSIN
YLOILO
YOKOHAMA

CORRESPONDENTS—In Samar and Leyte: WARNER, BARNES & CO., LTD.
CORRESPONDENTS—In Cebu: KER & CO.
LONDON OFFICE—31 Lombard St.
LONDON BANKERS—London & County Banking Co., Ltd.

*Interest Allowed on Fixed Deposits at Rates which may be Learned on Application. Credit Granted on Approved Securities and Every Description of Banking and Exchange Business Transacted. Drafts Granted on London and the Chief Commercial Places in Europe, India, Australia, America, China and Japan.*

**J. R. M. SMITH, Chief-Manager - - - HONGKONG** | **A. M. REITH, Acting Manager - - - MANILA**

WADE GARDNER, Agent, 50 Wall Street, New York.
W. H. HARRIES, Agent, 401 Montgomery Street, San Francisco

---

# INTERNATIONAL BANKING CORPORATION

**HEAD OFFICE, 60 WALL STREET, NEW YORK**

**LONDON OFFICE, THREADNEEDLE HOUSE, BISHOPSGATE STREET, WITHIN, E. C.**

**CAPITAL PAID UP AND SURPLUS, $6,500,000.00 UNITED STATES CURRENCY**

**THOMAS H. HUBBARD, President** | **JAMES S. FEARON, Vice-President**

## BRANCHES

| | | |
|---|---|---|
| Bombay | Empire, C. Z. | Peking |
| Calcutta | Hankow | San Francisco |
| Canton | Kobe | Shanghai |
| Cebu | Manila | Singapore |
| Colon | Panama | Washington, D. C. |
| City of Mexico | | Yokohama |

AGENCIES AND CORRESPONDENTS IN ALL PRINCIPAL CITIES OF THE WORLD
DESIGNATED DEPOSITORY FOR THE FUNDS OF THE GOVERNMENT OF THE PHILIPPINE ISLANDS
AND FOR THE FUNDS OF THE GOVERNMENT OF THE CANAL ZONE
GENERAL FOREIGN BUSINESS TRANSACTED
COMMERCIAL AND TRAVELLERS' LETTERS OF CREDIT ISSUED
BILLS OF EXCHANGE AND CABLE TRANSFERS BOUGHT & SOLD

# THE YOKOHAMA SPECIE BANK LTD.

**Capital (Paid-up): Yen 24,000,000** **Reserved Fund: Yen 15,900,000**

**HEAD OFFICE YOKOHAMA**

**PRESIDENT**

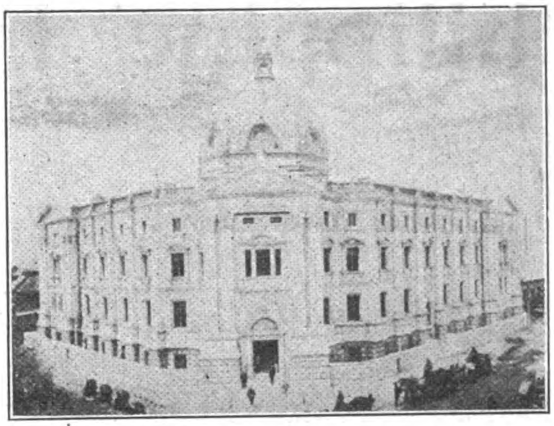
BARON KOREKIYO TAKAHASHI

**DIRECTORS**

NAGATANE SOMA, ESQ.
RIEMON KIMURA, ESQ.
IPPEI WAKAO, ESQ.
MASUNOSUKE ODAGIRI, ESQ.
TCHUNOSUKE KAWASHIMA, ESQ.
KOKICHI SONODA, ESQ.
ROKURO HARA, ESQ.
YUKI YAMAKAWA, ESQ.
VISCOUNT YATARO MISHIMA
HYOKICHI BEKKEY, ESQ.

**GENERAL MANAGER**

YUKI YAMAKAYA, ESQ.



HEAD OFFICE OF THE YOKOHAMA SPECIE BANK, YOKOHAMA

**HEAD OFFICE**

Every description of Banking business transacted.

For particulars, apply to the Manager.

Certified cheques on this Bank will be taken by the Custom House as cash in payment of duty.

Special Safe Deposit Boxes are provided in the Vault of the Bank.

T. KAWASHIMA, Manager

Yokohama, September, 1909.

**BRANCHES AND AGENCIES:**

| | | | | | |
|---|---|---|---|---|---|
| Tokyo | Hankow | Osaka | Newchwang | Lyons | Ryojun (Port Arthur) |
| Nagasaki | Peking | London | Liaoyang | Honolulu | Fengtien (Mukden) |
| New York | Dairen (Dalny) | San Francisco | Antung-Hsien | Shanghai | Changchun |
| Bombay | Tiehling | Hongkong | Kobe | Tientsin | |

Correspondents at all the chief commercial cities in the world.

**LONDON BANKERS:**

*Parr's Bank, Ltd.*
*Union of London & Smith's Bank, Ltd.*
*London Joint Stock Bank, Ltd.*

# RUSSO-ASIATIC BANK

**CAPITAL (Fully Paid)......... Roubles 35,000,000**
**RESERVE FUND. ..... .. .........Roubles 11,666,666.67**
**Special Reserve Fund..........Roubles 5,338,480.93**
**Capital contributed by Imperial Chinese Government.......Kpg. $3,500,000**
**Reserve Fund.......................Kpg. $1,670,000**

HEAD OFFICE: ST. PETERSBURG

PARIS OFFICE: 2 RUE LE PELETIER
LONDON OFFICE: 41 THREADNEEDLE ST., E. C.

86 Branches in Russia & Siberia and 25 Branches in Europe, Asia and America.

TEL. ADDRESS: SINORUSSE

**BANKERS**

**London:** *Messrs. Glyn, Mills Currie & Co.*
**Paris:** *Societe Generale pour favoriser le developement du Commerce et de l'Industrie en France.*
*Banque de Paris et des Pays-Bas.*
**Berlin:** *Messrs. Mendelssohn & Co.*
**Hamburg:** *Messrs. M. M. Warburg & Co.*
**Vienna:** *K. K. priv. Oesterr. Credit Anstalt fur Handel & Gewerbe.*
**Amsterdam:** *Messrs. Lippmann Rosenthal & Co.*

Interest allowed on Current Accounts in Taels at the rate of 2 per cent. per annum on the daily balance.
Fixed Deposits in Taels and Dollars. Terms on application.
Local Bills discounted. Special facilities for Russian Exchange. Foreign Exchange on the principal cities of the world bought and sold.
Safe Deposit Boxes.

**H. AUBERT & L. JEZIERSKI, Managers for China & Japan.**

# Deutsche-Asiatische Bank Shanghai

**Berlin, Calcutta, Hankow, Hamburg, Hongkong, Peking, Tientsin, Tsinanfu, Tsintau, Yokohama, Kobe, Singapore.**

**PAID-UP CAPITAL .................... SH. TLS. 7,500,000**

*Founded in 1889 by the following Banks and Bankers:*

Koenigliche Seehandlung (Preussische Staatsbank), Berlin.
Direction der Disconto-Gesellschaft, Berlin.
Deutsche Bank, Berlin.
S. Bleichroder, Berlin.
Berliner Handels-Gesellschaft, Berlin.
Bank fur Handel & Industrie, Berlin.
Robert Warschauer & Co., Berlin.
Mendelssohn & Co., Berlin.
M. A. von Rothschild & Sohne, Frankfurt o|M.
Jacob S. H. Stern, Frankfurt o|M.
Norddeutsche Bank in Hamburg.
Sal. Oppenheim jun. & Co., Cologne.
Bayerische Hypotheken & Wescheel Bank, Munich.

*London Bankers:*

Messrs. N. M. Rothschild & Son.
Union of London & Smith's Bank, Ld.
Deutsche Bank (Berlin), London Agcy.
Direction der Disconto-Gesellschaft.

*New York Agents:*

Schulz & Ruckgaber, 15 William Street

Every Description of Banking and Exchange Business Transacted.
Interest allowed on Current Accounts at 2 per cent per annum on the daily balance. Current accounts kept in taels and dollars.
Interest allowed on Fixed Deposits according to arrangement.
Local Bills discounted.
Every description of Banking and Exchange Business transacted.

R. TIMMERSCHEIDT, *Manager,*
Shanghai.

# A NEW EL DORADO

## The Philippine Islands

*A Virgin Field Awaiting The Investor. Rich in Minerals, Hardwoods, and Agricultural Products*

Gold Production Increased 150% last year
Coal and Oil Fields Being Developed
Vast Deposits of Copper and Iron

## 40,000,000 Acres of the Finest Hardwoods on Earth

**We Raise** Hemp, Copra, Rubber, Tapioca, Sugar, Tobacco, Coffee, Maguey, and all other Products of Tropical Climes

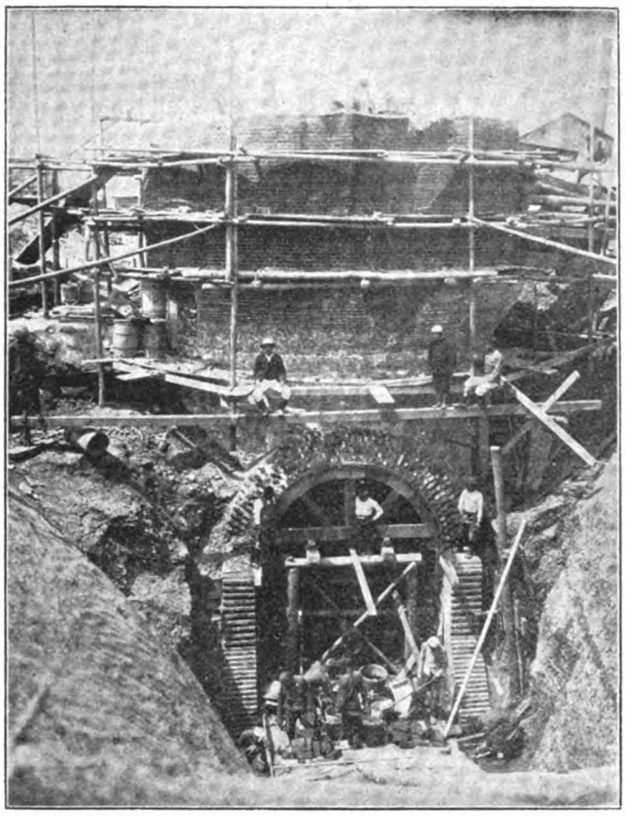
*No Other Land on Earth Offers a More Inviting Field for Capital*

**Write to the Publicity Committee**

THE MANILA MERCHANTS' ASSOCIATION

FOR INFORMATION

# FUSHUN COAL



SINKING SHAFT AT OYAMA PIT, FUSHUN COLLIERY.

## The Best Steaming Coal in the Far East

### Output 3,000 tons per day

Fresh stocks always on hand at Dairen, Newchwang & Tientsin Depots and also at Chefoo, Shanghai, Hongkong, Singapore and Penang.

MINING DEPARTMENT,

## South Manchuria Railway Company

DAIREN

Tel. Add. "Mantetsu," Codes: A.B.C. 5th Ed, A 1 & Lieber's

Agents: MITSUI & COMPANY

TELEPHONE 1108.

TELEGRAPHIC ADDRESS: "HARDWARE, SHANGHAI."

HEATING, LIGHTING AND SANITARY ENGINEERS.

# GORDON & COMPANY

110 SZECHUEN ROAD, SHANGHAI

STEAM OR HOT WATER HEATING PLANTS

AGENTS FOR THE CARRON COMPANY OF FALKIRK, SCOTLAND

STOVES AND FIRE GRATES

MODERN BATH-ROOM LUXURIES

HOT AND COLD WATER AND SANITARY FITTINGS

OUTPORT WORK A SPECIALTY

# SAN MIGUEL BREWERY

MANILA, P. I.

*The Largest and Most Modern* *Brewery*

IN THE FAR EAST

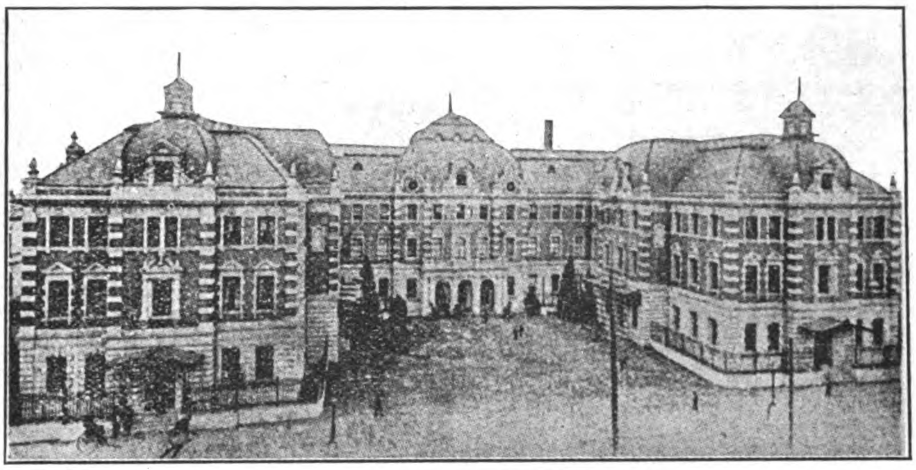
*Get into the Habit of Asking for* *San Miguel*

IT IS ABSOLUTELY PURE

Containing No Trace of Injurious Chemicals

General Telegraphic Address: "MITSUI"

A B C, 5th edition and A1 Codes used



THE MITSUI BUILDING, TOKIO,
Containing the offices of the Mitsui Family Council, The Mitsui Mining Co., The Mitsui Bank, and The Mitsui Bussan Kaisha

# THE MITSUI BUSSAN KAISHA

## (MITSUI & CO. IN EUROPE AND AMERICA)

## HEAD OFFICE: Surugacho, Tokio, Japan

**President:** HACHIROJIRO MITSUI, Esq.

**Directors:** SENJIRO WATANABE, Esq.; GIICHI IIDA, Esq.; SANKICHI KOMURO, Esq ; KENZO IWAHARA, Esq.; JOTARO YAMAMOTO, Esq.

**Home Branch Offices:** YOKOHAMA, MOJI, KUCHINOTSU, NAGOYA, WAKAMATSU, MIIKE, OSAKA, KARATSU, TAIPEH, KOBE, NAGASAKI.

**Branch Offices in Asia:** TIENTSIN, NEWCHWANG, SHANGHAI, BOMBAY, SINGAPORE.

**London Branch Office:** MITSUI & Co., Lime Street.

**New York Branch Office:** MITSUI & Co., 445 Broome Street.

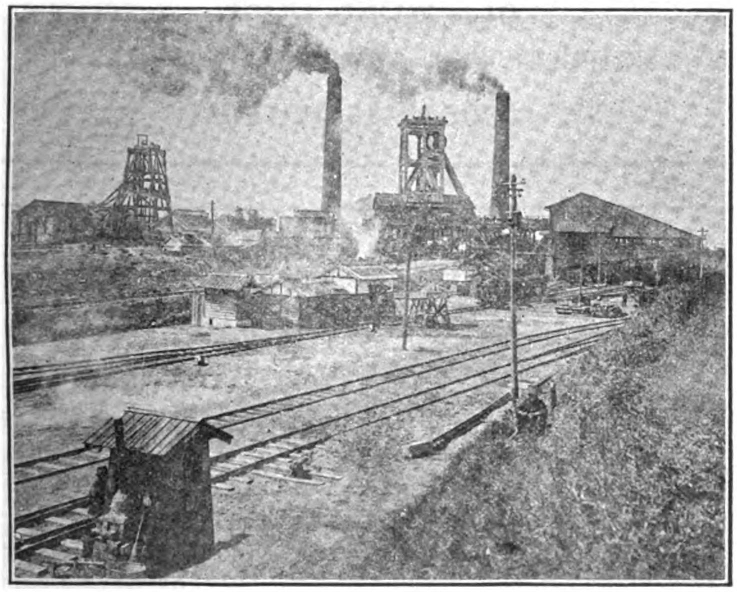
**Agents:** HAMBURG, CANTON, CALCUTTA, BANGKOK, FOOCHOW, HARBIN, SAN FRANCISCO, AMOY, DAIREN, TSINGTAU, SAIGON, SOURABAYA, HANKOW, SEOUL, ANTUNG, SYDNEY, MANILA, CHEFOO, CHEMULPO, RANGOON, VLADIVOSTOCK, ETC.

## IMPORT, EXPORT AND COMMISSION MERCHANTS

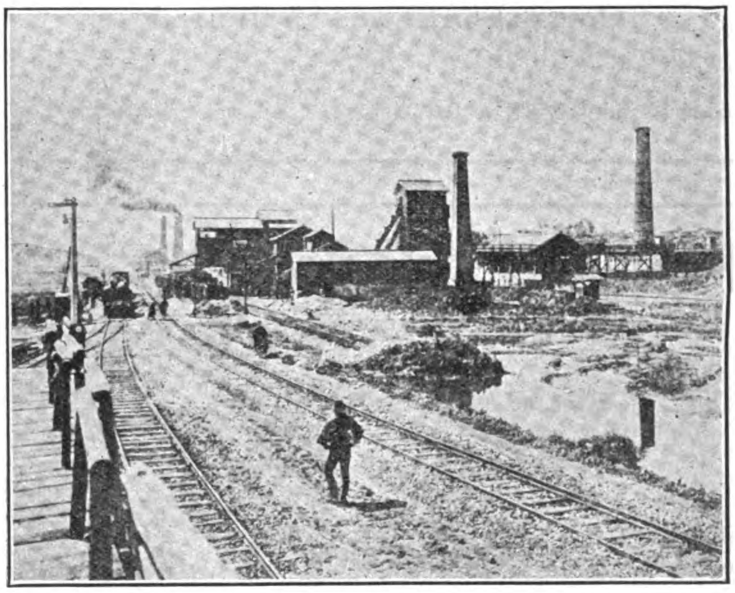
**CONTRACTORS OF COAL** to the Imperial Japanese Navy and Arsenals, the State Railways, Principal Railway Companies, Industrial Works, the United States Army Transport Service, and Home and Foreign Mail and Freight steamers.

**SOLE PROPRIETORS** of the famous Miike, Tagawa, Yamano and Ida Coal Mines, and Sole Agents for Hondo, Kanada, Kishima, Mameda, Mannoura, Ohnoura, Ohtsuji, Sasahara, Tohmiyama, Tsubakuro, Yoshio, Yunokibara, Takae, Fushun and other Coals.

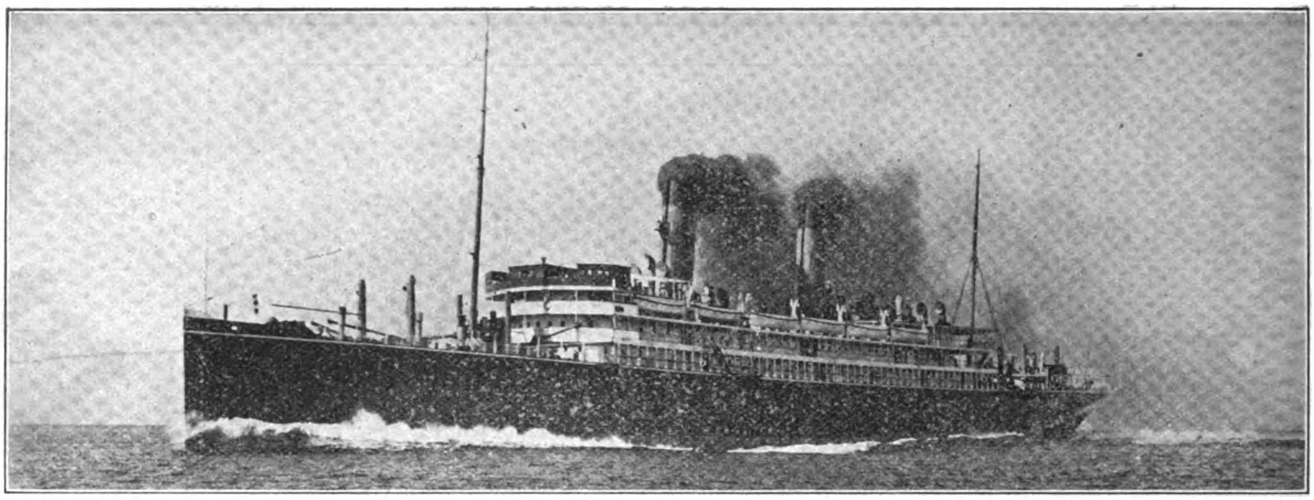
**IMPORTERS AND EXPORTERS** of Cotton, Cotton Yarn, Cotton Piece Goods, Book-binding Cloth, Copper, Silver, Tin, Lead and other Metals, Railway Materials, Acids, Camphor, Flour, Cereals, Manure, Opium, Isinglass, Mushrooms, Sugar, Wax, Vermicelli, Sulphur, Hemp, Beer, Cement, Cigarettes, Matches, Paper, Hides, Leather Belts, Teak and other Timbers, Machinery, etc.



MIYANOHARA PIT, MIIKE MINE



WASHING PLANT, MIIKE MINE




S. S. "CHIYO-MARU"

TRANS-PACIFIC TURBINE DRIVEN PASSENGER STEAMER "CHIYO-MARU" FOR T. K. K.—Built and engined by the Mitsu Bishi Dockyard and Engine Works, Nagasaki, November 1908.—Length (overall), 570 feet 0"; Breadth, moulded, 63 feet 0"; Depth (shelter deck), 46 feet 6"; Gross tonnage, 13,426 tons; Displacement, 18,725 tons; Engines, Parsons' Three Shaft Arrangement; Boilers, Single Ended Scotch Boilers (13); I. H. P., 19 591; Speed, 21 knots. (This photo was taken on her full speed trials the 13th October, 1908.)

# MITSU BISHI DOCKYARDS & ENGINE WORKS, NAGASAKI

| | DOCK NO. 1. | DOCK NO. 2. | DOCK NO. 3. |
|---|---|---|---|
| EXTREME LENGTH | 523 FT. | 371 FT. | 722 FT. |
| LENGTH ON BLOCKS | 513 „ | 360 „ | 714 „ |
| WIDTH OF ENTRANCE ON TOP | 88 „ | 66 „ | 99½ „ |
| „ „ „ „ BOTTOM | 77 „ | 53 „ | 88½ „ |
| WATER ON BLOCKS AT SPRING TIDE | 26½ „ | 22 „ | 34½ „ |

## THE BEST EQUIPPED SHIPBUILDING PLANT IN THE FAR EAST,

WITH SPECIAL FACILITIES FOR HANDLING THE HEAVIEST CASTINGS AND THE REPAIRING OR BUILDING OF SHIPS, ENGINES AND BOILERS, ALSO ELECTRICAL WORK.

LARGE STOCK OF MATERIAL, AND FITTINGS ALWAYS ON HAND

THE POWERFUL SALVAGE STEAMER "OURA-MARU" (712 TONS, 700 I. H. P.) EQUIPPED WITH NECESSARY PUMPS AND GEAR, IS ALWAYS READY AT SHORT NOTICE.



## EASTERN ENGINEERING COMPANY

ARCHITECTS AND ENGINEERS

Special attention paid to Reinforced Concrete Designing : : : : : :

**Correspondence Solicited**

Rooms 10 and 11 LACK & DAVIS Bldg. Manila, P. I.



## THE WEN MING PRESS

88 HONAN ROAD, SHANGHAI

HIGH GRADE HALF TONES, ZINC ETCHINGS, ETC.

TYPE FOUNDRY, PRINTERS AND LITHOGRAPHERS

ALL WORK DONE

SKILFULLY AND AT MODERATE PRICES.

ORDERS SOLICITED



## HOTELS

WHERE TO LIVE AT MANDALAY

UPPER BURMA

**SALWEEN HOUSE**
AND
**TENASSERIM HOUSE**

Entire satisfaction guaranteed, as the numerous testimonials from both residents and tourists testify.

TELEGRAPHIC ADDRESS: "SALWEEN"



P. O. Box 194

## C. S. NICHOLSON

GENERAL BROKER

9 P. MORAGA. MANILA, P. I.

# THE KAWASAKI DOCKYARD CO., LTD.

## DAIREN

Cable Address: "DOCK," Dairen
Codes: AI and A. B. C. 5th Ed.

**PAID UP CAPITAL: -Y-10,000,000**

THE DAIREN BRANCH has a DRY DOCK and fully equipped MACHINE and TOOL SHOPS, an IRON & BRASS FOUNDRY and other Auxiliary Works. It undertakes general CASTING WORK and the construction and repair of all kinds of VESSELS, BOILERS, ENGINES and other MACHINERY.

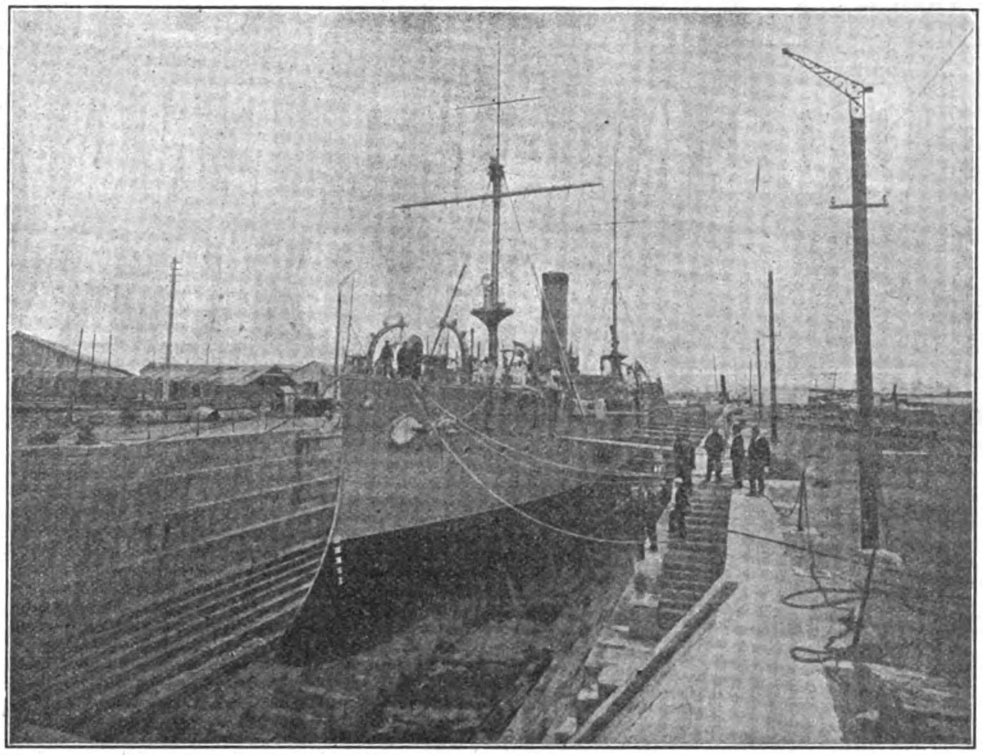
Powerful Salvage & Towing Boats will be supplied at Shortest Notice.

All work guaranteed to be of the highest order and to be of the most up-to-date improvements. All orders immediately attended to.

**DOCK**

| | |
|---|---|
| Length | 380 ft. |
| Width | 50 ft. |
| Depth over Sill | 20 ft. |

**DOCKING CHARGES VERY MODERATE**



GRANITE DRY DOCK, DAIREN

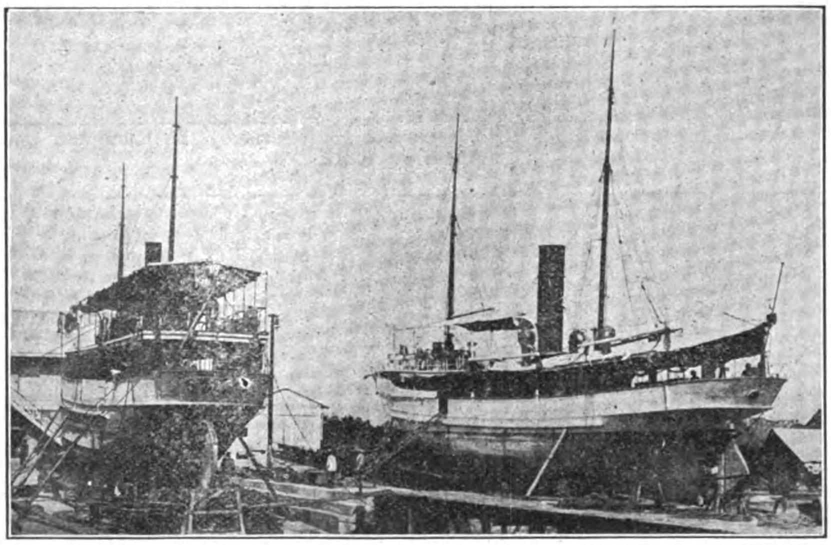
# MANUEL EARNSHAW & CO., LTD.

## MARINE ENGINEERS

15 BARCELONA ST., MANILA

REPAIRS TO SHIPS, BOILERS, ENGINES, ETC.

LAUNCH BUILDERS, FOUNDERS IN IRON, BRASS, ETC.



MARINE SLIPWAY

P. O. BOX NO. 282

TELEPHONE 213

Telegraphic Address: "MEARNSHAW" MANILA

Codes:
A. B. C., 5th Edition
Engineering Telegraph Code and Supplement; Western Union

FOUNDRY AT 151 REINA REGENTE

SLIPWAY AT CAVITE

# KIANGNAN DOCK AND ENGINEERING WORKS

**Directors:**

**ADMIRAL SAH**
IMPERIAL CHINESE NAVY

**KWONG KWOH WAH**
TAOTAI

**Manager:**

**R. B. MAUCHAN**

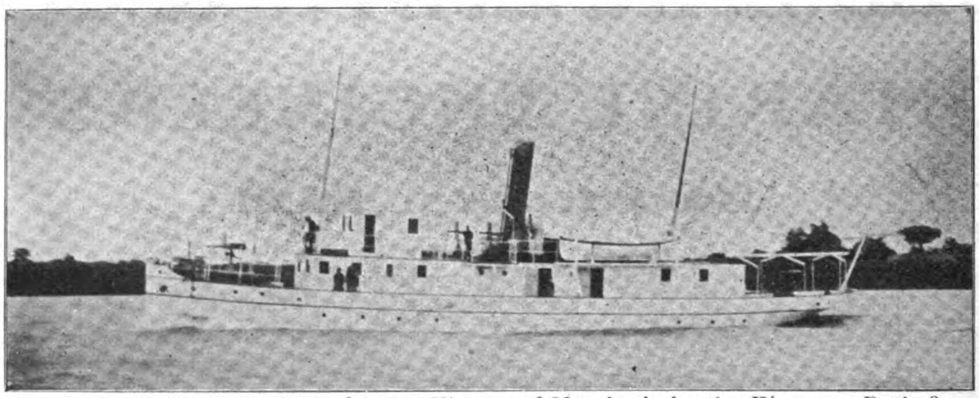
## KIANGNAN DOCK

Length over all, 385′; length on blocks, 375′; water on sill, 19′; dock entrance, top, 70′, bottom, 60′.

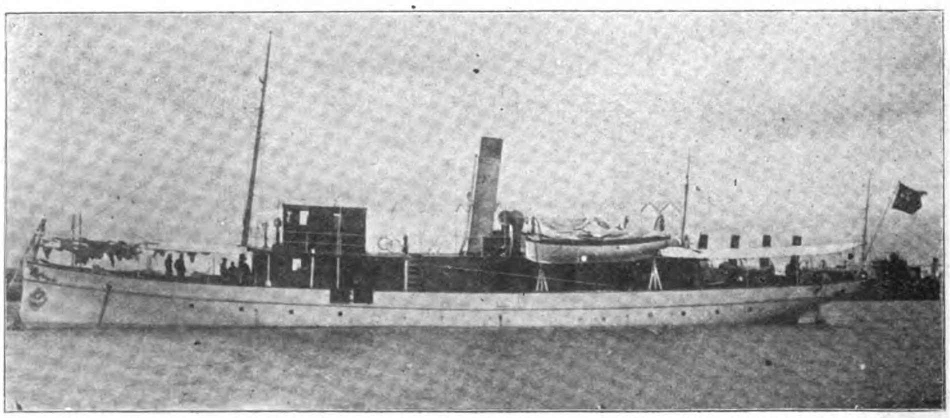
The dock accommodates the largest coasting steamers and is equipped with complete modern facilities for handling work thoroughly and promptly.

The new machine and boiler shops, and the foundry and shipbuilding plant are equal to any this side of Suez.

Yangtsze River Pirate Chaser, Built by the Kiangnan Dock & Engineering Works for the Viceroy of Nanking



Liao River Gunboat Built for the Viceroy of Manchuria by the Kiangnan Dock & Engineering Works



River Patrol Boat Built for the Szechuan Viceroy by the Kiangnan Dock and Engineering Works

Cable Address:

**"SINODOCK"**

Codes:

**A. B. C. 5TH EDITION**
**ENGINEERING,**
**LIEBER'S, STANDARD**

**CONTRACTORS FOR REPAIRING, DOCKING AND REFITTING THE VESSELS OF THE IMPERIAL CHINESE NAVY AND THE IMPERIAL MARITIME CUSTOMS**

Patent slipway for small steamers and launches. Complete boat and launch building shops.

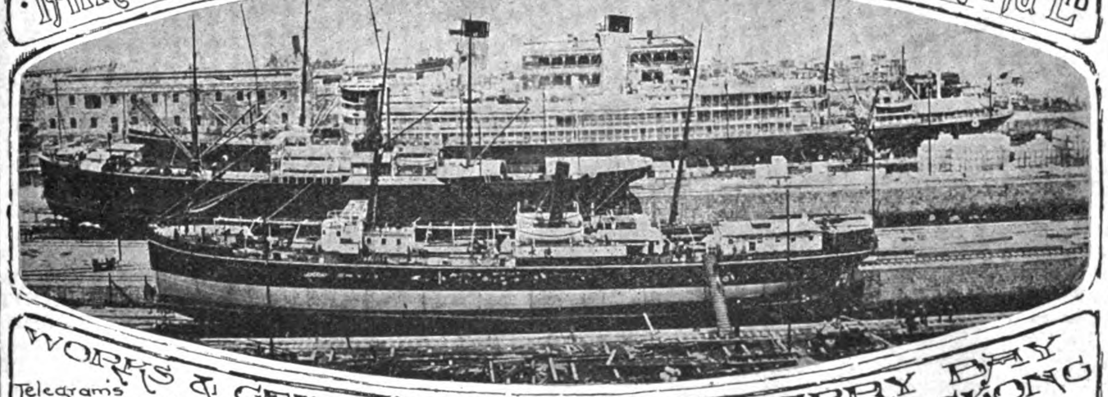
# TAIKOO DOCKYARD & ENGINEERING Co. OF HONGKONG LTD

**Engineers, Boilermakers, Repairers**

WORKS COVER AN AREA OF 53 ACRES

DRY DOCK 787 FT. × 88 FT. DEPTH 34½ FT.

SLIPWAYS
NO. 1 1030 FT.
NO. 2 993½ FT.
NO. 3 993½ FT.



WORKS & GENERAL OFFICES QUARRY BAY HONGKONG

Telegrams
Temseloaf London
Taikoodock Hongkong

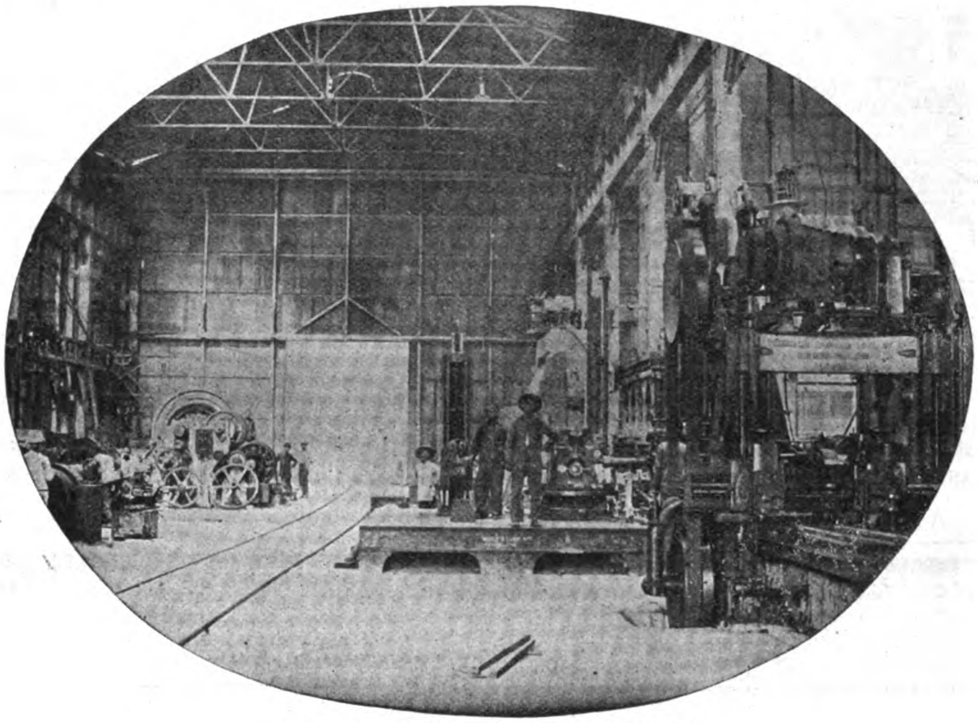
**Builders**

OF PASSENGER AND CARGO STEAMERS, TURBINE STEAMERS, STEAM YACHTS, ALL TYPES OF WAR VESSELS STEAM LAUNCHES MOTOR BOATS TUGS AND LIGHTERS

A SECTION OF THE YARD SHEWING TURBINE STEAMSHIP "CHIYO MARU" 13,600 TONS IN DRY-DOCK, TWO COASTING STEAMERS ON SLIPWAYS, AND VESSEL LYING ALONGSIDE THE SEAWALL

## THE BUILDING YARD IS LAID OUT WITH FURNACES AND PLANT SUITABLE FOR BUILDING VESSELS UP TO 20,000 TONS

GENERAL MANAGERS
**John Swire & Sons**
8 BILLITER SQUARE, LONDON



VIEW OF PORTION OF MACHINE SHOPS

AGENTS IN HONGKONG, CHINA AND JAPAN
**Butterfield & Swire**

THE POWER FOR THE ESTABLISHMENT is generated by Gas Producers, on the Mond System, supplying 4 Cockerill Gas Engines of 3,000 collective horse power, driving Electrical Generators, and is transmitted throughout the Works by means of Electrical Motors.

AN ELECTRIC DERRICK CRANE capable of lifting weights up to 100 tons, is erected on the Sea Wall, and 14 Electric Overhead Travelling Cranes ranging from 5 tons to 100 tons, are fitted throughout the Workshops.

AGENTS IN MANILA AND PHILIPPINE ISLANDS

## CASTLE BROS.-WOLF & SONS

THE DOCK PUMPS consist of 2 sets of Centrifugal, Electrically driven, pumps, together capable of emptying the Dock with 35 feet of water on the Sill in 2¾ hours.

THE MACHINERY in the Engine Works is laid out for dealing with the heaviest classes of Engines.

THE SLIPWAY CARRIAGES are of the latest pattern by Morton of Leith, and the Winding Gear consists of large electrically driven winches operating massive wire cables.

TENDERS SUBMITTED AND ESTIMATES GIVEN FOR BUILDING AD REPAIRING ALL CLASSES OF VESSELS; AL SO FOR EVERY DESCRIPTION OF ENGINE AND BOILER, MECHANICAL, ELECTRICAL AND CONSTRUCTIONAL WORK

# HONGKONG & WHAMPOA DOCK CO., LTD.

## HONGKONG

Telegraphic Address: **Manifesto Hongkong**
Dock Owners, Ship Builders, Marine and Land Engineers, Boiler Makers, Iron and Brass Founders, Forge Masters, Electricians.

All classes of CONSTRUCTIONAL and GENERAL ENGINEERING WORK undertaken, also LOCOMOTIVES, RAILWAY ROLLINGSTOCK and PLANT, BRIDGES, etc.

COAST and RIVER STEAMERS, TUG BOATS and LAUNCHES, SHALLOW DRAFT VESSELS and STERN WHEEL STEAMERS.

AUXILIARY MACHINERY for MARINE and LAND Purposes.

LAND and MARINE BOILERS of all sizes and classes. GALVANIZING by the Electrical process.

IRON and BRASS CASTINGS of all descriptions.

FORGINGS in IRON and STEEL for SHIPS, ENGINES, and LAND WORK, large and small.

We make a specialty of HIGH SPEED MOTOR BOATS for PASSENGER and CARGO Traffic.

ALL CLASSES of COCKS, VALVES and FITTINGS in IRON and BRASS supplied.

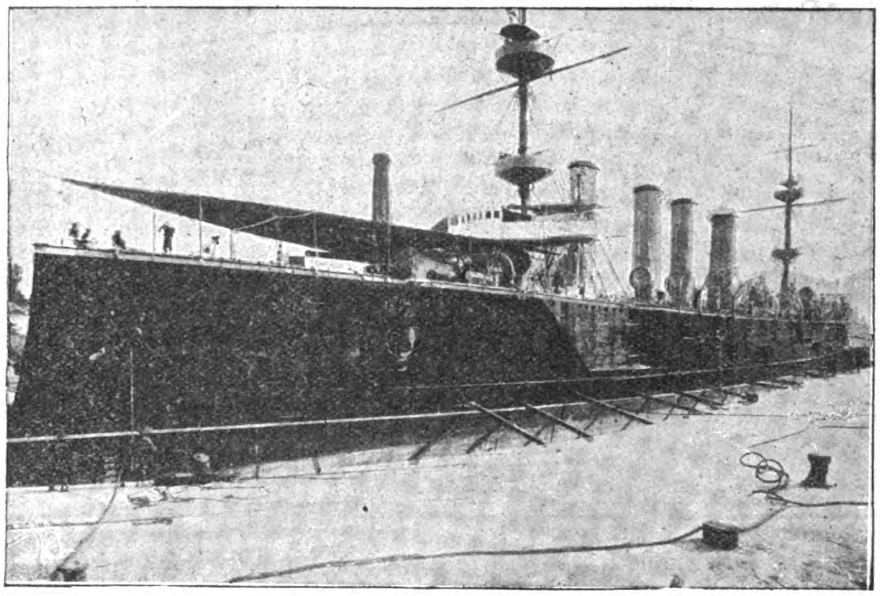
BOLTS, NUTS and RIVETS MANUFACTURED at SHORT NOTICE.

FINISHED NUTS in BRASS and IRON.

A LARGE STOCK of STEEL and IRON PLATES, BARS and ANGLES, always in hand.

The Company possesses SIX GRANITE DOCKS and TWO PATENT SLIPWAYS and these are equipped for EXPEDITIOUS WORK. Our plant is of the most modern type throughout.

Ship Owners and Captains are assured that DOCKING and REPAIRS are carried out PROMPTLY and at MODERATE CHARGES.



H. M. S POWERFUL IN NO. 1 DOCK, KOWLOON.

The Dimensions of Docks and Slips are as follows:--

| *Name of Dock or Slip* | *Length on Keel Blocks* | *Entrance Breadth* | *Depth Over Sill at Ordinary Spring Tides* | *Rise of Tide* | |
|---|---|---|---|---|---|
| | | | | *Springs* | *Neaps* |
| **KOWLOON** | *Feet* | *Feet* | *Feet* | *Feet* | *Feet* |
| No. 1 Dock, Kowloon......... | 700 | 86 ft. top / 70 ft. bottom | 30′ | 7′ 6″ | 3 |
| No. 2 Dock, Kowloon ....... | 371 | 74′ | 18′ 6″ | 7′ 6″ | — |
| No. 3 Dock, Kowloon. ....... | 264 | 49′ 3″ | 14′ | 7′ 6″ | — |
| Patent Slip, No. 1, Kowloon... | 240 | 60′ | 14′ | 7′ 6″ | — |
| Patent Slip, No. 2, Kowloon... | 220 | 60′ | 12′ | 7′ 6″ | — |
| **TAI-KOK-TSUI** | | | | | |
| Cosmopolitan Dock........... | 466 | 85′ 6″ | 20′ | 7′ 6′ | — |
| **ABERDEEN** | | | | | |
| Hope Dock ................ | 430 | 84′ | 23′ | 7′ 6″ | — |
| Lamont Dock.......... ..... | 333 | 64′ | 16′ | 7′ 6″ | — |

Please Address Enquiries to the Chief Manager, R. M. DYER, B. Sc., M. I. N. A., Kowloon Dock, Hongkong

Telephone No. 13 K. Head Office, Kowloon.

Town Office, Queen's Buildings Telephone No. 20, Hongkong

# FINDLAY & CO.

## AGENTS, MANILA, P. I.

# W. F. STEVENSON & CO., LTD.

ILOILO MANILA CEBU

MERCHANTS

## STEAMSHIP AGENCIES

PENINSULAR AND ORIENTAL STEAM NAVIGATION CO., OSAKA SHOSEN KAISHA (IN CONNECTION WITH THE CHICAGO MILWAUKEE & ST. PAUL AND THE CHICAGO MILWAUKEE AND PUGET SOUND RAILWAYS), "BEN" LINE OF STEAMERS, "INDRA" LINE OF STEAMERS.

## INSURANCE AGENCIES

LIFE, STANDARD LIFE ASSURANCE CO.—FIRE, NORWICH UNION FIRE INSURANCE SOCIETY LTD., SCOTTISH UNION & NATIONAL INSURANCE CO., YORKSHIRE INSURANCE CO., LTD.—MARINE, MARINE INSURANCE CO. LTD., STANDARD MARINE INSURANCE CO. LTD. : : : : : : : : : : : : : : : : : : : : : : :

4 MUELLE DEL REY, MANILA, P. I.

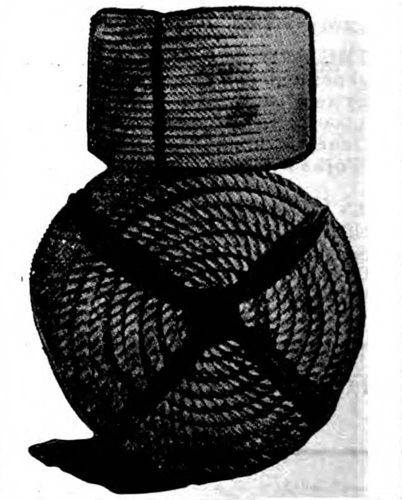
# Johnson-Pickett Rope Co.

## PURE MANILA ROPE

MADE WITH LATEST IMPROVED ROPE MACHINERY

**Average Breaking Load After Three Tests:**

| | | |
|---|---|---|
| 2 | Inch Rope Circumference........ | 4,037 Pounds |
| 3½ | " " " .. ..... | 16,670 " |
| 5 | " " " ........ | 23,728 " |



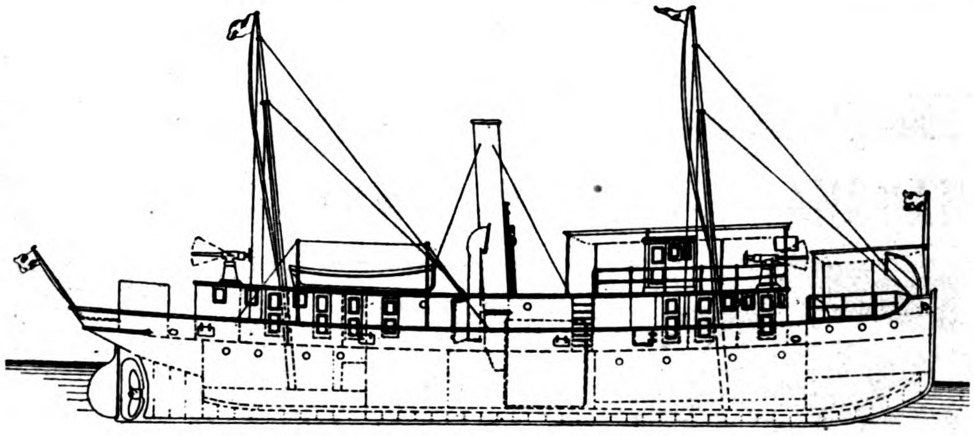
Factory and Salesroom.
Cor. Vives and Lara, Murallon,
San Nicolas, Manila, P. I.

TELEPHONE
1123

Cable Address: SANTAROPE
Code: Western Union, Universal Edition.

CORRESPONDENCE SOLICITED

ENGINEERS, MACHINISTS and FOUNDERS



SHIPBUILDERS, BOILERMAKERS ELECTRICIANS

I. C. M.'S GUNBOAT "KAI-HAI" BUILT BY THE NEW ENGINEERING AND SHIPBUILDING WORKS, LTD. SHANGHAI, FOR SERVICE IN NORTH CHINA: SPEED, 11 KNOTS

COAST AND RIVER STEAMERS, TUGBOATS, LAUNCHES, LIGHTERS, PONTOONS, SHALLOW DRAFT SIDE OR STERN WHEEL STEAMERS. ENQUIRIES SOLICITED. PLANS, SPECIFICATIONS AND ESTIMATES FURNISHED. ALL CLASSES OF ENGINEERING WORK UNDERTAKEN

# THE NEW ENGINEERING AND SHIPBUILDING WORKS, LTD.

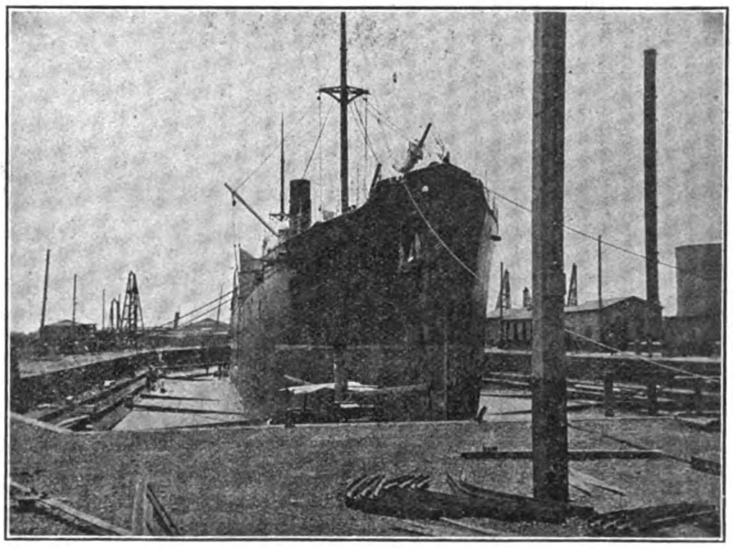
## SHANGHAI

PROPRIETORS OF THE

# YANGTSZEPOO DOCK

THE DOCK, WORKS AND OFFICE ARE LOCATED ON THE SHANGHAI SIDE OF THE RIVER, 15 MINUTES BY ELECTRIC TRAM FROM HEART OF THE CITY

THE WORKS ARE EQUIPPED WITH THE MOST MODERN MACHINERY, CAPABLE OF HANDLING THE LARGEST MARINE ENGINEERING WORK



VIEW OF YANGTSZEPOO DOCK

PARTICULARS OF DOCK
LENGTH ON BLOCKS 455′0″
" OVERALL - 469′0″
WIDTH, ENTRANCE 74′0″
" SILL - - 64′0″
DEPTH ON SILL, (H. W. O. S. TIDES) - - - 21′0″
DEPTH ON 3′0″ BLOCKS (H. W. O. S. TIDES) 19′0″
PUMPS CAN EMPTY DOCK WITHOUT VESSEL IN, IN 3½ HOURS.
WORKSHOPS LOCATED AT HEAD OF DOCK

OFFICE, DOCK & WORKS, 37 YANGTSZEPOO ROAD, SHANGHAI

TELEGRAPHIC ADDRESS: "SPEEDY." CODE: A.B.C., 5TH EDITION · TELEPHONE 703. · MANILA AGENT, F. L. STRONG

# THE SHANGHAI DOCK AND ENGINEERING CO., LTD.

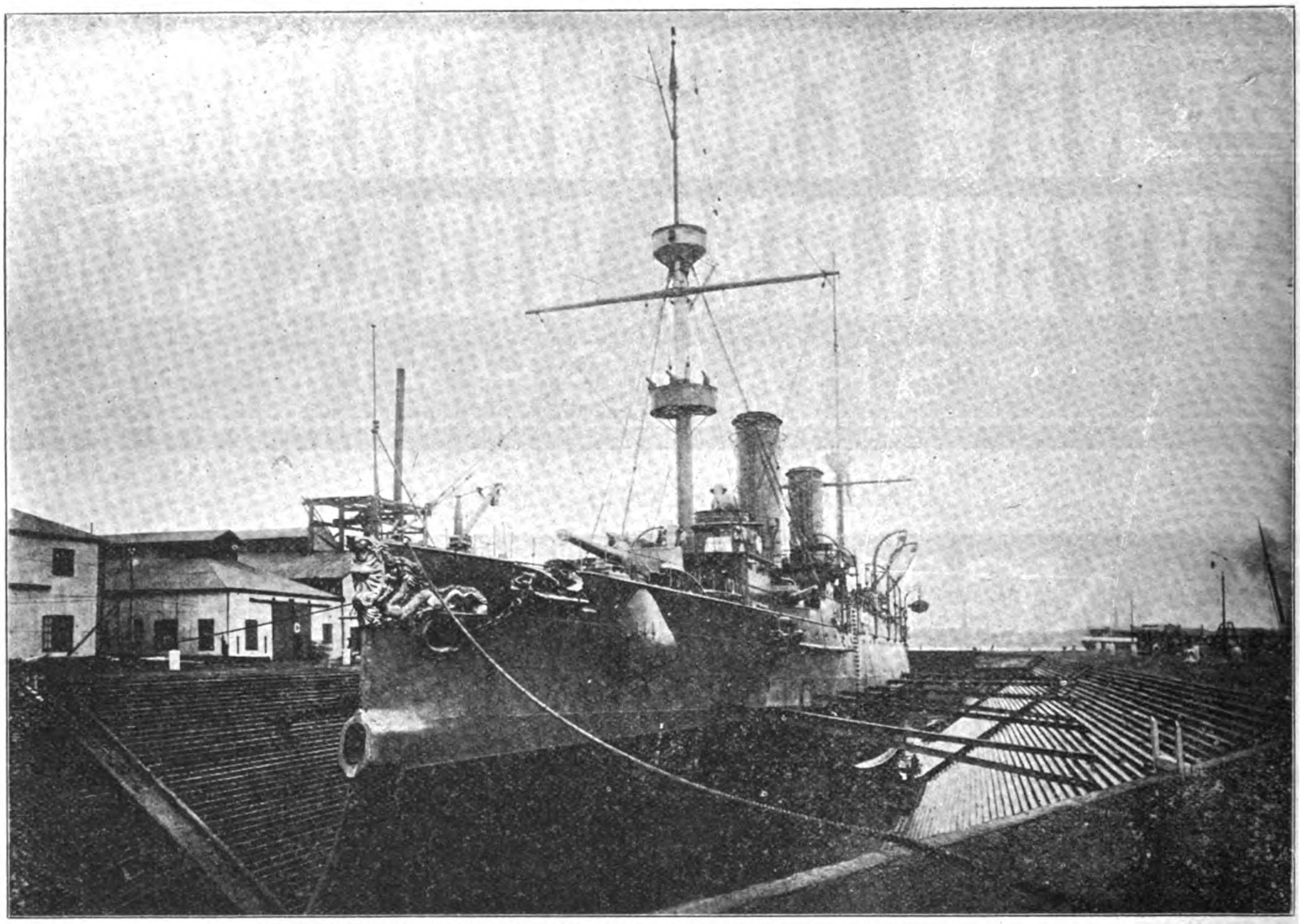
DOCK OWNERS — ENGINEERS

SHANGHAI
CHINA

SHIP BUILDERS — FOUNDERS

Cable Address:
"FARNHAM," SHANGHAI

Codes Used:
A I., A B C (4th & 5th Editions)
Watkin's, Scott's, Western
Union and Engineering



The HAI-CHI in the "OLD DOCK" of the Shanghai Dock & Engineering Co., Ltd.

The Docks are five in number, ranging in length from 360 feet to 560 feet, and breadth of entrance from 57 feet to 82 feet, with the depth of water on the sill from 16 feet to 24 feet.

The Dock charges are very moderate.

The Water Frontage is about 1½ miles in length. Wharves and Pontoons are arranged where steamers can moor during repairs; and slips for hauling up small vessels are provided. Sheer legs capable of lifting 65 tons are placed at the various Docks.

The extensive Shipbuilding yards and workshops are provided with the latest improvements in tools, traveling cranes of 70 tons' capacity, hydraulic and pneumatic machinery.

Lit up by Electric light with railway lines through workshops and yards.

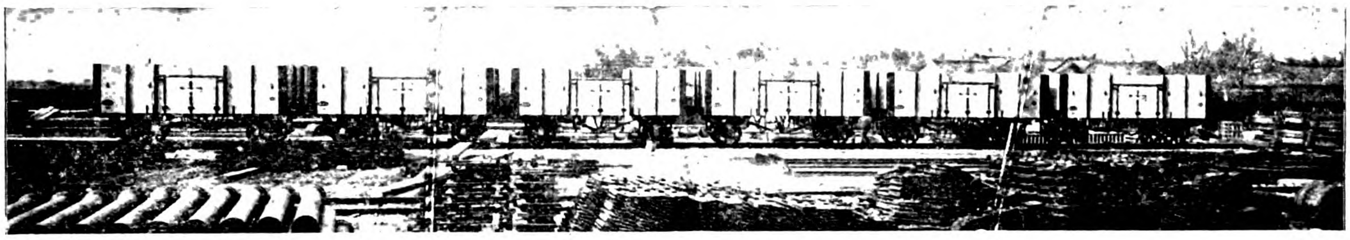
Powerful salvage appliances can be supplied at short notice. Enquiries immediately attended to.

Estimates given for all classes of work; Coast Steamers, Side and Stern-Wheelers, Tugboats, Launches, Steam Barges, Dredgers, Floating Cranes, and Lighters a speciality.

Every description of repairs and renewal work undertaken and expeditiously executed.

Land and Marine Engines and Boilers, Centrifugal, Mining, and other pumping machinery always in stock or in progress, also power driven Machine Tools, Engineer's Hand Tools, Steam, Gas, Oil, and Electric machinery and engineering accessories generally.

## CORRESPONDENCE INVITED



TYPE OF HIGH SIDE GOODS WAGONS

CONSTRUCTED BY THE VULCAN IRONWORKS, LTD., FOR THE NANKING CITY RAILWAY

# Railway Coaches and Goods Wagons Assembled Structural Steel Work Erected

ESTIMATES given for every description of Engineering and Constructional work and repairs, including supplying and installing of HOT WATER and STEAM HEATING in all its branches and HOT and COLD WATER SUPPLIES.

THE WORKS are electrically driven, and are equipped throughout with up-to-date machinery and labour saving devices, including an HYDRAULIC PLANT, and appliances to undertake constructing or repairing SHIPS, ENGINES, BOILERS, etc.

EXPERIENCED EUROPEAN STAFF SUPERVISES ALL BRANCHES OF WORK

# VULCAN IRONWORKS, Ltd.

ENGINEERS, SHIPBUILDERS, BOILERMAKERS, ELECTRICIANS, IRON AND BRASS FOUNDERS, ETC.

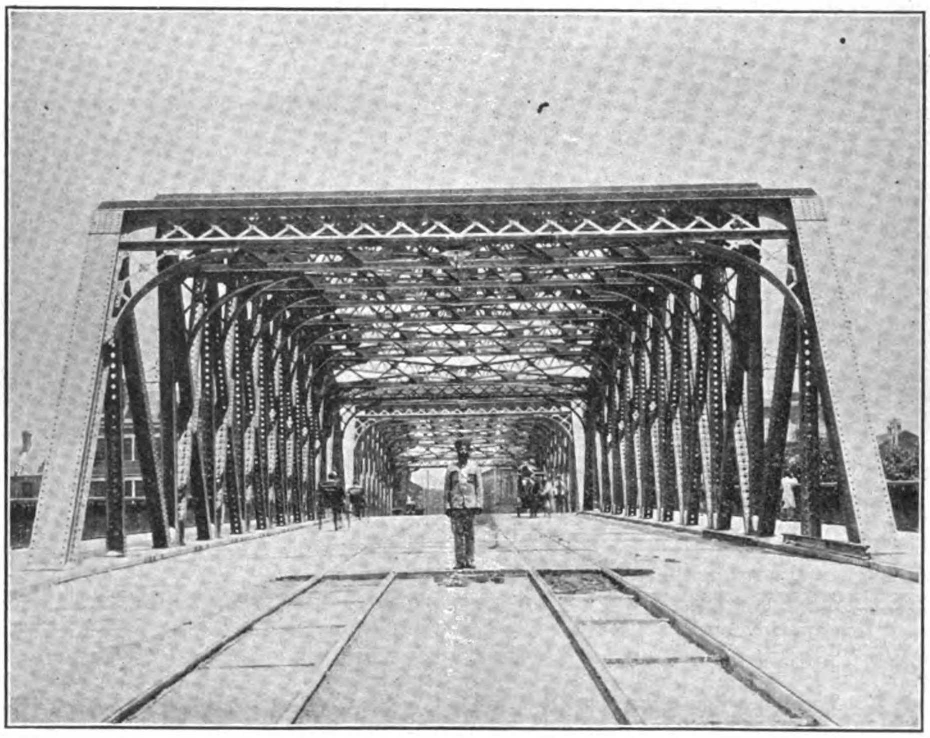
Office and Works: 45 YANGTSZEPOO ROAD, SHANGHAI

# PATTON'S IRONHIDE PAINT

A PROTECTIVE COATING FOR IRON AND STEEL

PREVENTS CORROSION CAUSED BY DAMPNESS, SULPHUROUS FUMES AND OTHER DELETERIOUS GASES

**Tough Elastic Durable**



THE RUSTLESS COATING FOR

STRUCTURAL IRON WORK, STEEL CARS, TRAIN SHEDS, IRON PARTS OF ROLLING STOCK

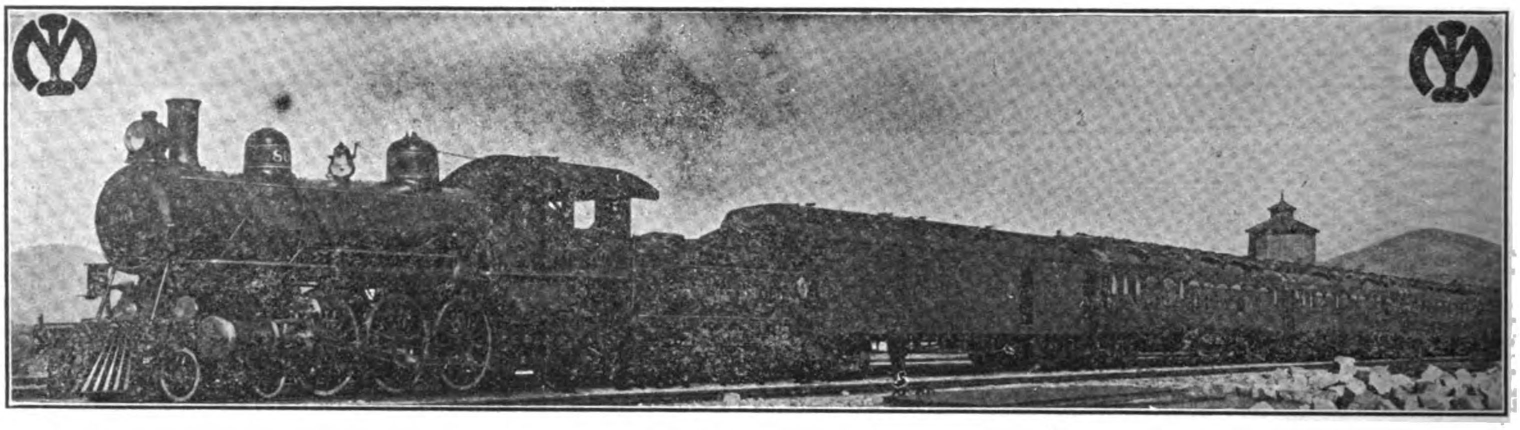
BRAKE RODS, TRUSS RODS, TRUCKS, AND BRIDGES, SUBJECTED TO SEVERE VIBRATORY STRAINS, SHOULD ALWAYS BE COATED WITH PATTON'S

"IRONHIDE"

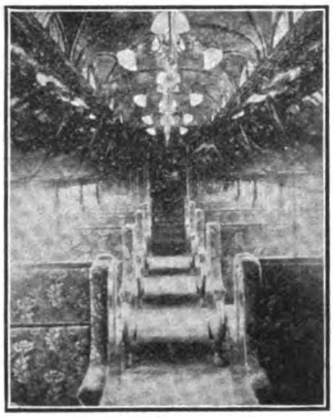
## FEARON, DANIEL & CO.

Sole Agents for CHINA, HONGKONG, JAPAN AND PHILIPPINES

SHANGHAI, NO. 9 FOOCHOW ROAD



# South Manchuria Railway


SLEEPER

**SHORTEST AND QUICKEST ROUTE BETWEEN THE FAR EAST AND EUROPE, VIA DAIREN**

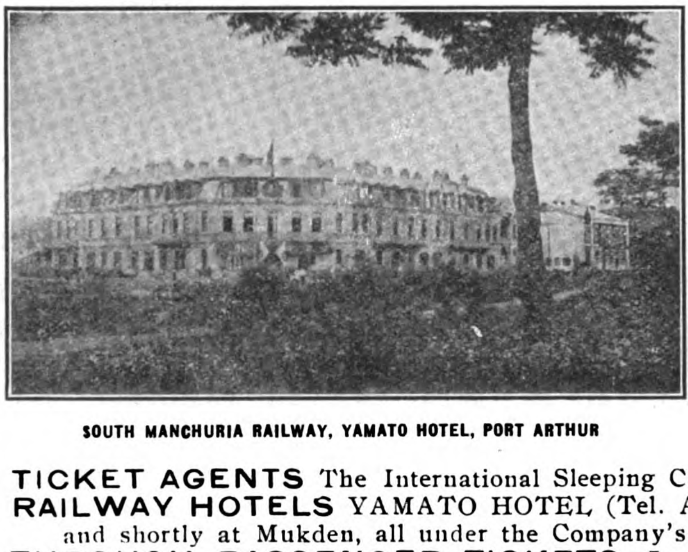
INTERIOR PULLMAN DAY COACH

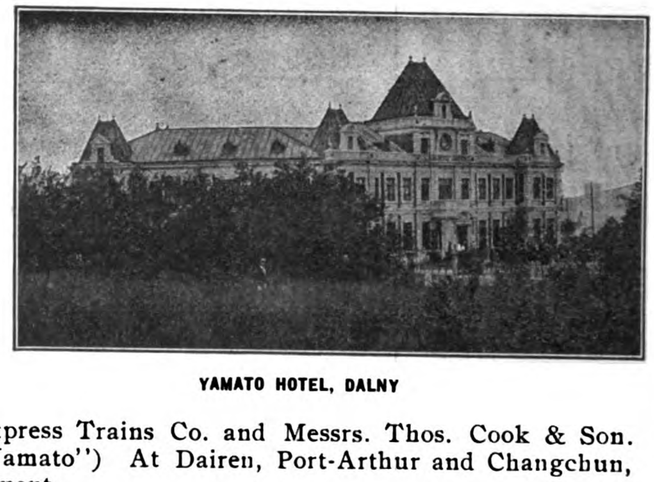
**Main Railway Line** THRICE WEEKLY EXPRESS TRAIN SERVICE, composed of excellently equipped Sleeping, Dining and 1st class Cars, is operated between Dairen and Changchun in connection with the Trans-Siberian Express Trains and with Shanghai Mail Steamers.

## BRANCH RAILWAY LINES

RYOJUN LINE—For Ryojun (Port Arthur), 1½ hours from Dairen.
YINGKOU LINE—For Yingkou (Newchwang), 40 minutes from Tashihchiao Junction.
FUSHUN LINE—For the famous Fushun Colliery from Suchiatun Junction.
ANTUNG LINE—A light railway from Mukden to Antung connecting with the Korean Railway.

DAIREN-SHANGHAI DIRECT STEAMER SERVICE—is maintained TWICE-WEEKLY by the S.S. "Kobe Maru" and "Saikio Maru" (2,877 tons each).


SOUTH MANCHURIA RAILWAY, YAMATO HOTEL, PORT ARTHUR


YAMATO HOTEL, DALNY

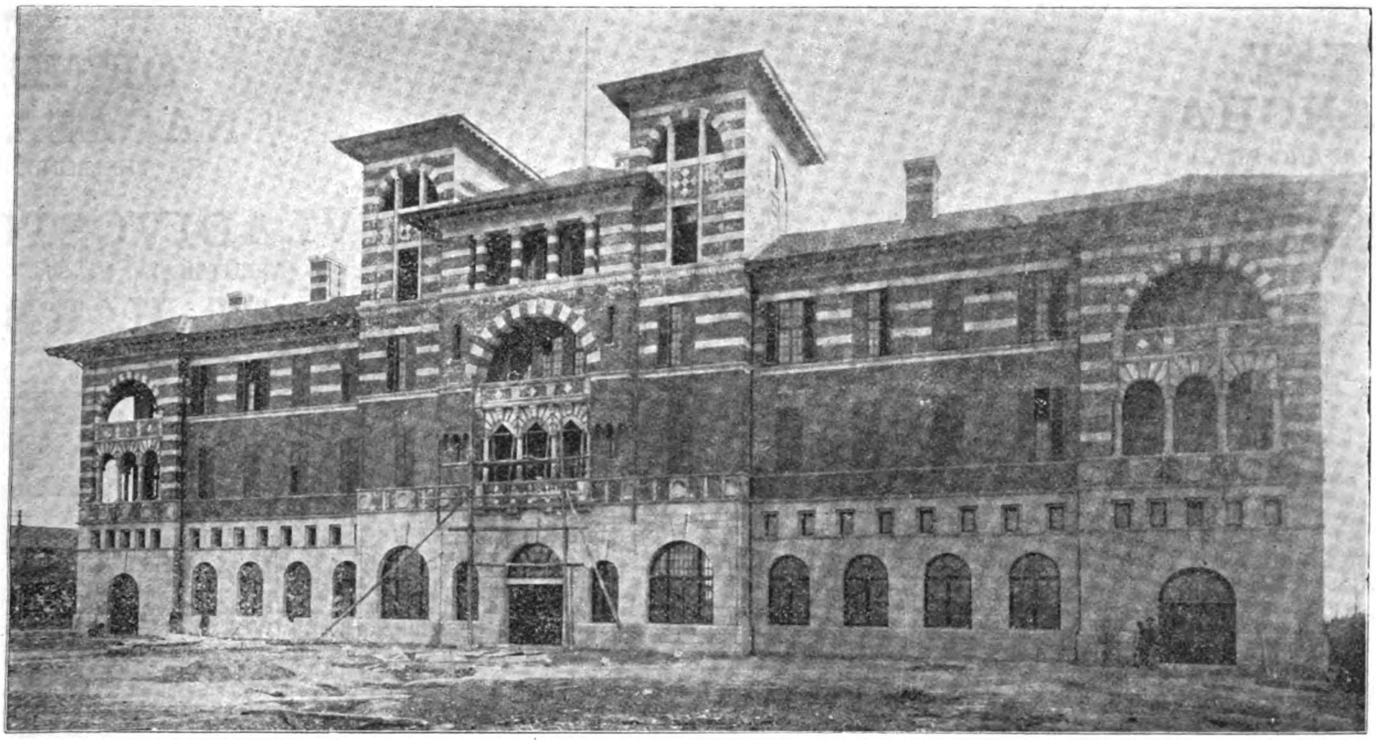
**TICKET AGENTS** The International Sleeping Car & Express Trains Co. and Messrs. Thos. Cook & Son.
**RAILWAY HOTELS** YAMATO HOTEL (Tel. Add.: "Yamato") At Dairen, Port-Arthur and Changchun, and shortly at Mukden, all under the Company's management.
**THROUGH PASSENGER TICKETS**—In conjunction with the Chinese Eastern Railway, Imperial Government Railways of Japan, the Imperial Railways of North China, the Osaka Shosen Kaisha and the Company's own steamers. Through Passenger Tickets are issued between the Company's principal stations and the undermentioned points:—

**NORTH MANCHURIA & SIBERIA:** Ashiho, Habarovsk, Hailar, Harbin, Manchouli, Nicolsk-Ussurisk, Pogranitchnaia, Shuangchengpu, Tsitsihar, Taolaichao, Vladivostock, Yaomen.
**CHINA:** Hsinminfu, Peking, Shanghai, Shanhaikuan, Tientsin.
**JAPAN:** Hakata, Hiroshima, Kioto, Kobe, Kumamoto, Moji, Nagasaki, Nagoya, Osaka, Shimonoseki, Tokyo, &c.

**SOUTH MANCHURIA RAILWAY COMPANY, Dairen**

**Tel. Add.: MANTETSU -:- Codes: A. B. C., 5th Ed., A1 and Lieber's**

# *The Line of a Hundred Pagodas*



NEW STATION AND ADMINISTRATION BUILDING AT SHANGHAI

PASSENGERS TO THE YANGTSZE RIVER PORTS SHOULD TAKE THE STEAMER AT NANKING, THUS ENJOYING A TRIP THROUGH THE INTERESTING LAND OF PAGODAS AND "THE GARDEN OF CHINA." NANKING, THE SOUTHERN CAPITAL OF CHINA, WITH ITS MANY INTERESTING SIGHTS, THE CELEBRATED MING TOMBS, AND OTHER ATTRACTIONS, CAN BE SEEN IN TWO DAYS' TRIP FROM SHANGHAI. THE FIRST AND SECOND CLASS COACHES OF THE S-N. RAILWAY COMPARE WITH THE BEST IN EUROPE OR AMERICA FOR COMFORT AND SERVICE. TWO EXPRESS TRAINS DAILY.

# CHINESE EASTERN RAILWAY

## STEAMER & EXPRESS SERVICE

FAR EAST — EUROPE

TICKET OFFICES

**SHANGHAI**
8 KIUKIANG ROAD

**PEKING**
AMBASSADOR'S STREET

**NAGASAKI**
THE BUND

**VLADIVOSTOK**
ALEUTSKAIA, No. 37

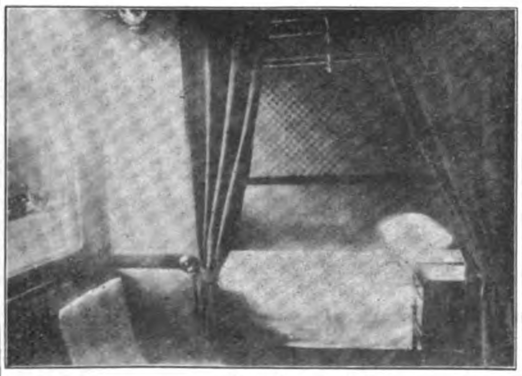
**HEAD OFFICES AT HARBIN**

## STEAMER AND TRAIN TIME TABE

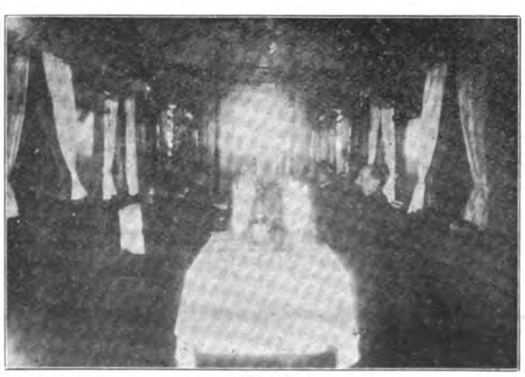
| STEAMERS | | Free Time Between the Arrival of Steamer and Departure of Train | TRAINS | | | |
|---|---|---|---|---|---|---|
| DEPARTURE | ARRIVAL AT VLADIVOSTOCK | | DEPARTURE FROM VLADIVOSTOK | ARRIVE | | ST. PETERSBURG |
| | | | | IRKUTSK | MOSCOW | |
| | | | (Harbin Time) | (St. Petersburg Time) | | |
| SHANGHAI Saturday* | Thursday, 9.00 | 31.25 hours | Friday, 4.25 | Tuesday, 1.29 | | Monday, 6.00 |
| NAGASAKI Monday, 6.00 | do do | 31.25 " | Friday, 4.25 | Tuesday, 1.29 | | Monday, 6.00 |
| TSURUGA Saturday 5.00 | Monday 11.00 | 29.25 " | Tuesday 4.25 | Saturday, 1.29 | Friday, 7.06 | |
| TSURUGA Thursday 5.00 | Saturday 11.00 | | Sunday 4.25 | Thursday, 1.29 | Wed., 7.05 | |

The hours of departure depend upon the tide. The express trains of the Chinese Eastern Ry. Co. leave Vladivostock on Fridays and Sundays. The express leaving on Fridays connect at Irkutsk with the express State trains running between Irkutsk and St. Petersburg via Vologda-Viatka. The Chinese Ry. Co.'s expresses consist of luggage car, restaurant car, two second and one first class cars, and are provided with a 1st class kitchen and servants speaking English and French.

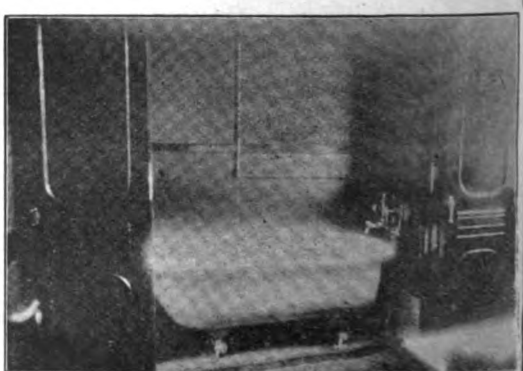
### THE COMFORTS OF THE CHINESE EASTERN EXPRESS



SLEEPING ROOM



DINING CAR



BATH ROOM

# SIEMENS CHINA

## ELECTRICAL ENGINEERING CO., SHANGHAI

## MANUFACTURERS OF EVERYTHING ELECTRICAL

**CHINA BRANCH HEAD OFFICE: AT SHANGHAI, I-B, JINKEE ROAD**

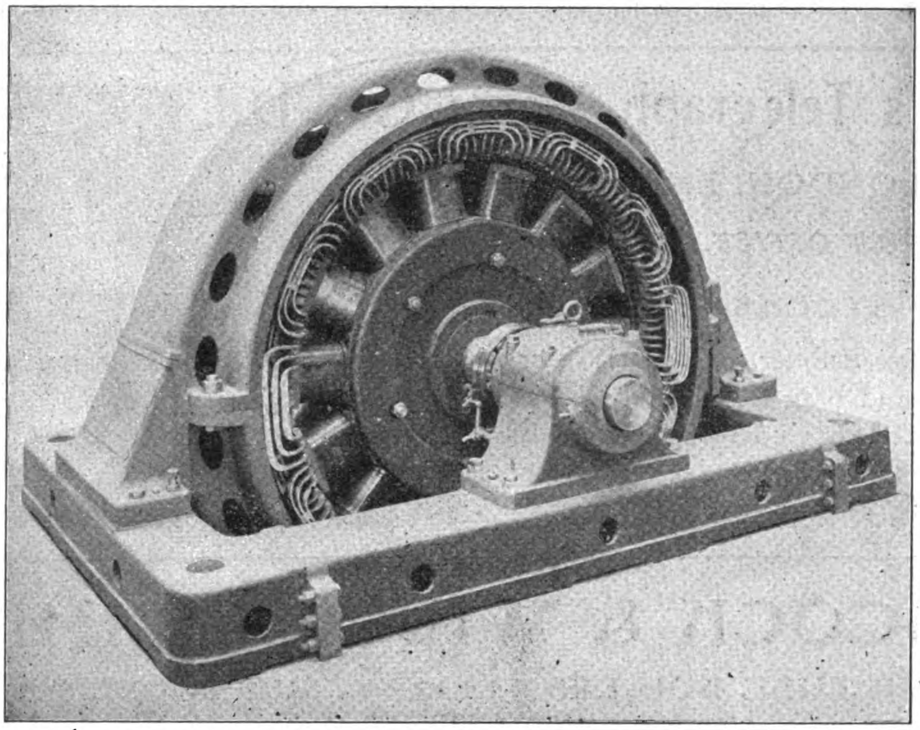
**SUB-AGENCIES: AT TSINGTAO, HANKOW, TIENTSIN AND PEKING WITH A LARGE STAFF OF EFFICIENT ELECTRICAL ENGINEERS**

Representing the Siemens Companies:

**SIEMENS BROTHERS DYNAMO WORKS - - - London-Stafford**
**SIEMENS BROTHERS & COMPANY - - - - London-Woolwich**
**SIEMENS & HALSKE A. G. - - - - - - Berlin-Nonnendamm**
**GEBRUEDER SIEMENS & CO. - - - - - - Berlin-Lichtenberg**
**SIEMENS-SCHUCKERTWERKE G. m. b. H.- - Berlin-Nuernberg**

Also THE EAST ASIATIC WIRELESS TELEGRAPH CO. "TELEFUNKEN," SHANGHAI
Cable Address: FOR SHANGHAI, HANKOW, TIENTSIN & PEKING "MOTOR;" FOR TSINGTAO, "SIEMENS"
Codes used: PRIVATE, LIEBER'S, A-I and A B C 5th Ed.

SIEMENS TANTALUM-LAMPS
BRIGHTEST AND MOST ECONOMICAL LIGHT



"PROTOS" - MOTORCARS
DRIVEN BY GASOLINE OR ELECTRICITY

DIRECT COUPLED THREE-PHASE ALTERNATING CURRENT

## DYNAMO

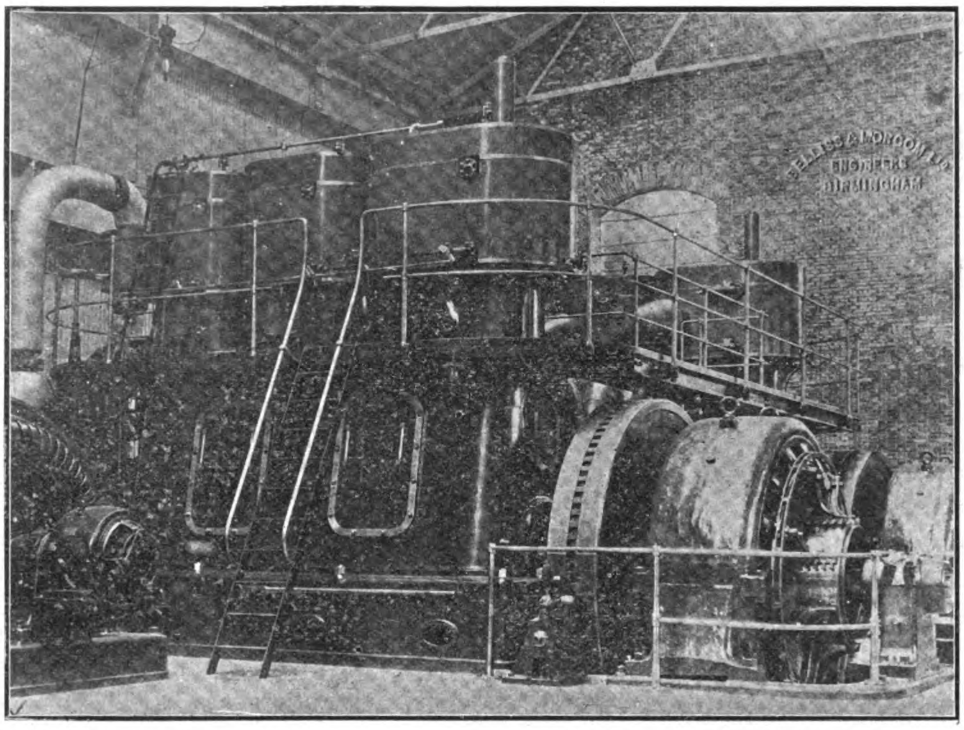
**as installed at Mukden, Kirin, Soochow, Luanchow Mines and Tsingtao by Siemens-China**

***Plans and Estimates given for all descriptions of Electrical Machinery and Apparatus on short notice***

## COMPLETE EQUIPMENTS FOR

*Lighting, Power and Traction Plants—Electrical Pumping, Winding and Hauling Plants—Builders of the "Zoelly" Steam Turbine—Manufacturers of Telephone, Telegraphic and Roentgen Ray Apparatus, Watermeters, Ozone Machines, Cables, Glow-lamps, Batteries, Electric and Gasoline Motor-Cars.*

**WIRELESS TELEGRAPHY INSTALLATIONS, SYSTEM TELEFUNKEN**



SHANGHAI MUNICIPAL ELECTRICITY WORKS
TOTAL 2,200 B. H. P.

# Belliss & Morcom, Ltd.

ENGINEERS

**Birmingham, England**

**China District Office, 8 Jinkee Road, Shanghai**

Patent Self-Lubricating Quick Revolution Engines. 4,500 Engines aggregating 900,000 H. P. in use, of which 66 engines totalling 18,850 H. P. is in China.

---

**Air Compressors**

---

**Condensing Plants**

---

**Centrifugal Pumping Sets**

---

**Line, Exhaust, Steam and Mixed pressure turbines**

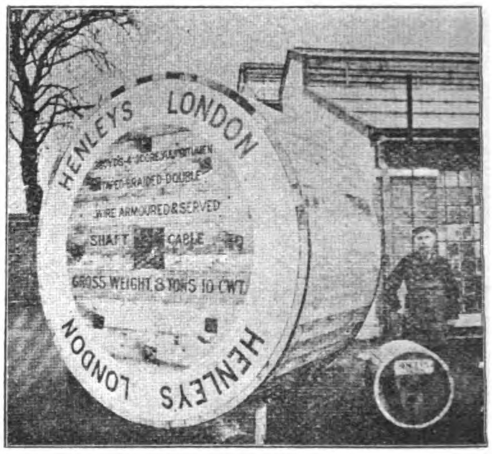
# W. T. Henley's Telegraph Works Co., Ltd.

**LONDON, ENGLAND**

***CHINA DISTRICT OFFICE, 8 Jinkee Road, Shanghai***

**STOCKS CARRIED**

Prices on application for Rubber, Paper, Jute or Bitumen. Insulated, House Service, Aerial and Bare Copper Cables. Flexibles or Telephone and Telegraph Cables of all kinds. Motor Car Flexibles. House Fuse Boxes; Dividing Boxes, Service Boxes, Pavement Frames and Covers; Joint Box Compounds, etc., etc.




# BABCOCK & WILCOX, LIMITED

**PATENT WATER TUBE BOILERS** — **SALES AGENCY, 8 JINKEE ROAD, SHANGHAI**

**A Few Eastern Works Which Have Installations From One Or All the Above Firms**

*Green Island Cement Co., Hongkong.*
*Electric Traction Co., of Hongkong.*
*China Light & Power Co., Canton.*
*Manila Electric R. R. & Light Co.*
*Shanghai Municipality Electricity Works.*
*Cie Francaise de Tramways et d'Eclairage Electriques de Shanghai.*
*Ewo Cotton Spinning and Weaving Co.*
*Naigai Wata Kaisha Spinning Co.*
*Imperial Railways of North China.*
*Shanghai-Nanking Railway.*
*Admiralty Dockyard, Hongkong.*
*The Trading Co., Hankow.*
*The Hongkong Electric Light Co.*
*The Hongkong and Whampoa Dock Co.*
*China Inland Light Co., Shanghai.*
*Swatow Electric Light Co.*
*Hankow Light & Power Co.*
*Mukden Central Station.*
*Imperial Nanking Electric Light Works.*
*Chungking Electric Light Co.*
*Hankow Waterworks Light Co.*
*Tientsin Gas & Electric and Light Co.*
*Peking Electric Light Co.*
*Peking Syndicate, Ltd.*
*Hanyang Iron & Steel Works.*
*Tientsin Enterprising Corporation.*
*Fushun Colliery, Manchuria.*
*Changsha Electric Light Co.*
*Peiyang University.*

## DAVID W. BELL:—*Representative*

**8 JINKEE ROAD, SHANGHAI**

**Telegraphic Address:—"GOLDFLOWER"** **Codes:—A. B. C. 5th Ed., Lieber's & Engineering**

SHANGHAI
HONGKONG
CANTON
HANKOW
CHUNGKING
TIENTSIN
TSINGTAU

# ARNHOLD, KARBERG & CO.

TSINANFU
NEWCHWANG
NEW YORK
BATTERY PL.
LONDON
BERLIN

## General Agents for

**ELECTRICAL GENERATORS, SUPPLIES, ETC.**
Allgemeine Electricitaets Gesellschaft (A. E. G.) Berlin.

**ELECTRIC TRAIN LIGHTING**
Electric Train Lighting Co., Berlin.

**RAILWAY MATERIAL**
Arthur Koppel Ltd., Berlin

**STEAM LOCOMOTIVES**
The Baldwin Locomotive Works, Philadelphia.

**STEAM PUMPS**
The A. S. Cameron Steam Pump Co., New York.

**TELEPHONE APPARATUS**
The Western Electric Co., New York and Chicago.

**FLOUR MILLING MACHINERY**
The Nordyke & Marmon Co., Indianapolis.

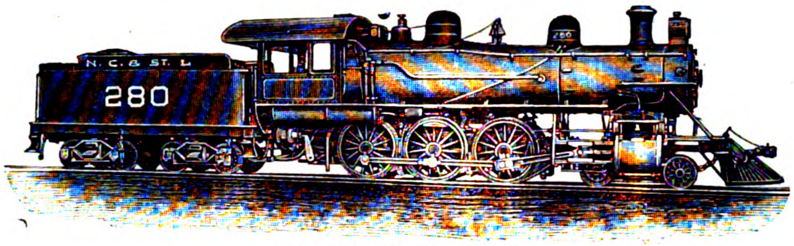
**BLASTING POWDER, FUSES, ETC.**
Rendrock Powder Co., New York.

**REINFORCED CONCRETE CONSTRUCTION**
Trussed Concrete Steel Co. (Kahn System), Detroit.

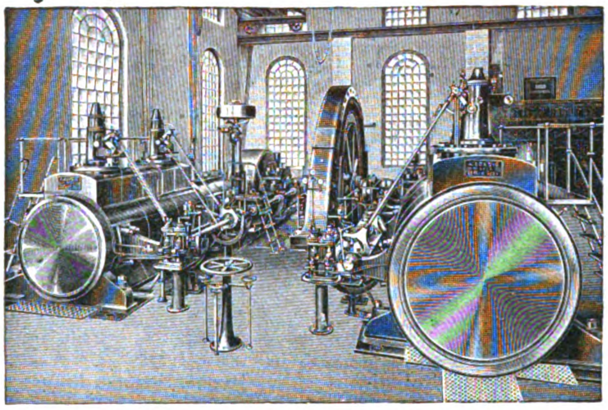
**HEAVY MACHINE TOOLS**
Niles-Bement-Pond Co., New York.

**BELTING**
Gandy Belting Co., Baltimore.

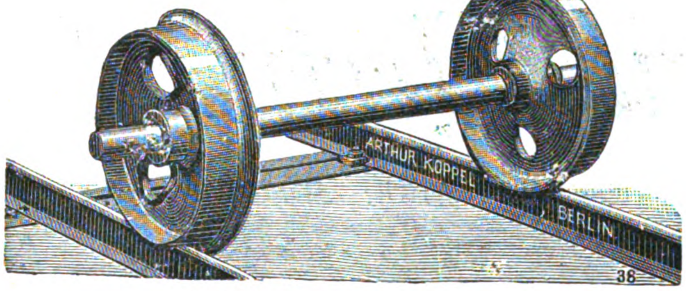
**DRILLING MACHINERY**
Davis Calyx Drill Co., New York.
Star Drilling Machine Co., Akron, Ohio.



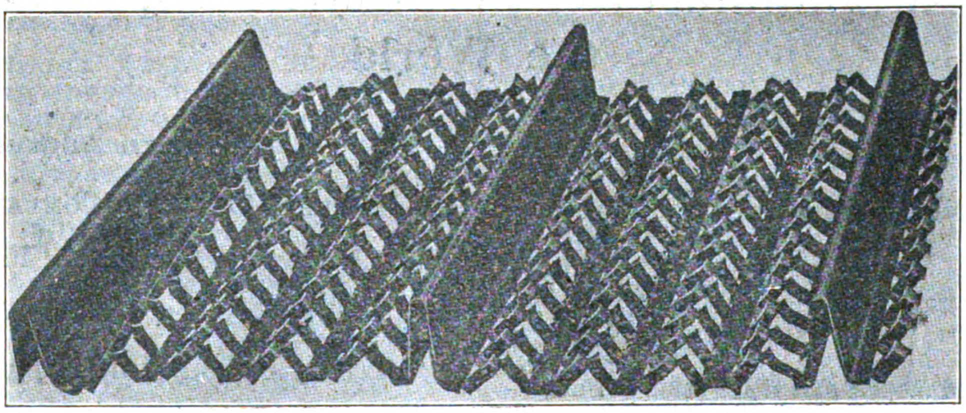

BALDWIN LOCOMOTIVE



A. E. G. ELECTRICAL PLANT




RAILWAY WHEELS AND AXLE



HY-RIB USED EXTENSIVELY FOR WALLS, SIDINGS, ROOFS, PARTITIONS, SUSPENDED CEILINGS AND FURRING

## General Agents for

**CONCRETE MACHINERY**
Ideal Concrete Machinery Co., South Bend.

**ROOFING**
Paraffine Paint Co., San Francisco.

**MOTORS, TORPEDO AND MINING MATERIAL**
Berliner Maschinenbau A. G. vorm Schwarzkoff, Berlin.

**ENGINES, PUMPS, BOILERS, ICE MACHINES, ETC.**
A. Borsig, Tegal, Berlin.

**AMMUNITION, ETC.**
Deutsche Waffen and Munitions Fabriken, Berlin, Karlsruhe.

**ARMY RIFLES, ARMS, ETC.**
Waffenfabrik Mauser A. G., Obendorf, Neckar.

**GUNS AND AMMUNITION**
Skodawerke A. G., Pilsen.

**MACHINE TOOLS**
Ludw. Loewe, A. G., Berlin.

**WAR VESSELS**
Stettiner Maschinenbau A. G. "Vulcan."

**STEEL**
Jonas & Colver, Ltd., Sheffield.

**COTTON MILLING MACHINERY**
Asa Lees & Co., Ltd., Oldham.

**MOTOR BOATS**
Carl Meissner, Hamburg.

**DIESEL ENGINES**
Diesel Engine Co., Ltd. London.

## ENGINEERING AND ELECTRICAL DEPARTMENTS

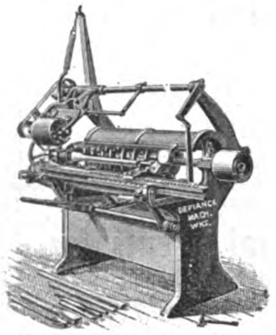
# "DEFIANCE" WOOD-WORKING MACHINERY

**Send for Catalogue**

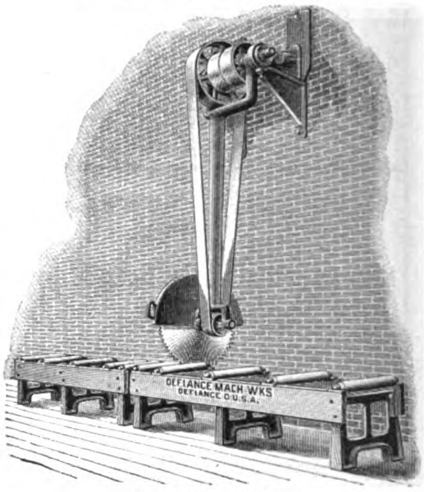
Invented and Built by

**THE DEFIANCE MACHINE WORKS**

DEFIANCE, OHIO, U. S. A.



Spoke & Handle Lathe



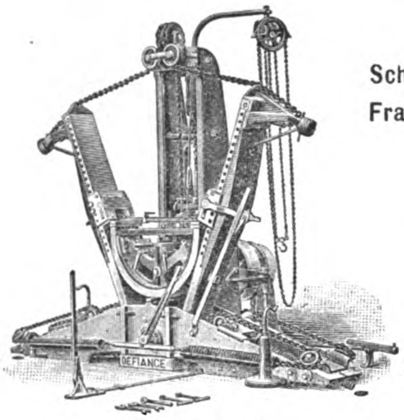
No. 2 Swing Saw

For Producing Hubs, Spokes, Rims, Wheels, Wagons, Carriages, Automobile Wheels and Bodies, Shafts, Poles, Neckyokes, Single trees, Hoops, Handles, Spools, Bobbins, Insulator Pins, Table Legs, Balusters, Shoe Lasts, Oval Wood Dishes, and for General Woodwork.

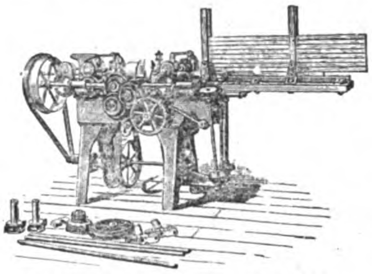
Our machines are now being used by fourteen different governments in their arsenals, ship-yards and workshops. Let us supply you.

EASTERN AGENTS:

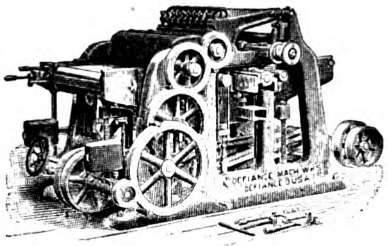
Schuchardt & Schutte, Shanghai | Mitsui & Co., Tokyo
Frank L. Strong, Manila, P. I. | London Office, 71 Queen St., E.C.



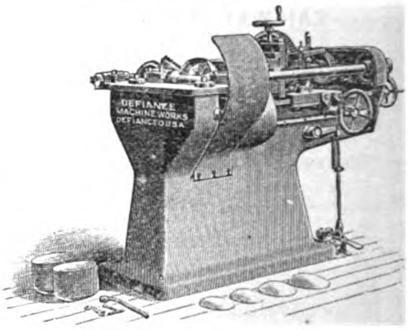
12″ Rim Bender



Automatic Long Handle Lathe



Double Surface Planer



Oval Wood Dish Machine

# *General Electric Company*

*PRINCIPAL OFFICE: SCHENECTADY, N. Y.*

## Largest Manufacturer of Electrical Apparatus in the World

The most extensive engineering and manufacturing resources in the world enable the General Electric Company to produce completely developed apparatus and accessories for the generation and transmission of electricity and its application to all lighting and power purposes -:- -:- -:- -:- -:- -:- -:- -:-

**Far Eastern Addresses:**

GENERAL ELECTRIC COMPANY (Special representative for the Far East) 23 Water Street, Yokohama, Japan

MITSUI & CO., Tokio, Japan.

BAGNALL & HILLES, Yokohama, Japan

FEARON, DANIEL & CO. / ANDERSEN, MEYER & CO. } No. 4 Yuen Ming Yuen Road, Shanghai, China.

FRANK L. STRONG, Manila, P. I.

# California-Manila-Lumber Commercial Co.

Cable Address: "HOOPTON"

Codes: Western Union, Universal Edition—Lybo. A.B.C. 4th Edition—Century

Telephone 290
P. O. Box 782

IMPORTERS OF
## OREGON PINE REDWOOD
and all kinds of Hardware

Representatives of
Leading American Manufacturers of Machinery, Building Material, Engineering Supplies, Etc.

Representatives of

The Trussed Concrete Co., *Detroit, Mich.*
Acetylene Apparatus M'fg. Co., *Chicago, Ill.*
A. L. Canfield, *New York City.*
Contracting Plant M'fg. Co., *New York City.*
Higgins Manufacturing Co., *Newport, N. J.*
Lobee Machinery Co., *Buffalo, N. Y.*
McCray Refrigerating Co., *Kendallville, Ind.*
Morreau Gas Fixture M'fg. Co., *Cleveland, O.*
Shoel Kopf, Hartford & Hanna Company, *Buffalo, N. Y.*
South Bend Chilled Plow, *South Bend, Ind.*
J. B. Wise & Co., *Watertown, N. Y.*

*Offices: 10-11-12 LACK & DAVIS Building, Calle Echague, Manila, P. I.*

CORRESPONDENCE SOLICITED



# Warner, Barnes & Co., Ltd.

Manila, London, New York, Iloilo, Cebu, Albay, Samar, Leyte

General Merchants, Insurance and Shipping Agents
Importers and Exporters

**Steamship Agencies:**
Nippon Yusen Kaisha
Regular lines to Australia Manila, Japan, Europe and America.
China & Manila S. S. Co., Ltd.
International Sleeping Car Co.
Trans-Siberian Railway
White Star Line
Bibby Line
American Asiatic S. S. Co.

**Express Companies:**
China Express Company
Geo. W. Wheatley Co.'s Express
United States Express Co.
Neale & Wilkinson Express Co.

**General Managers**
The Pasig Steamer & Lighter Company Limited
The Pasay Estate Ltd.

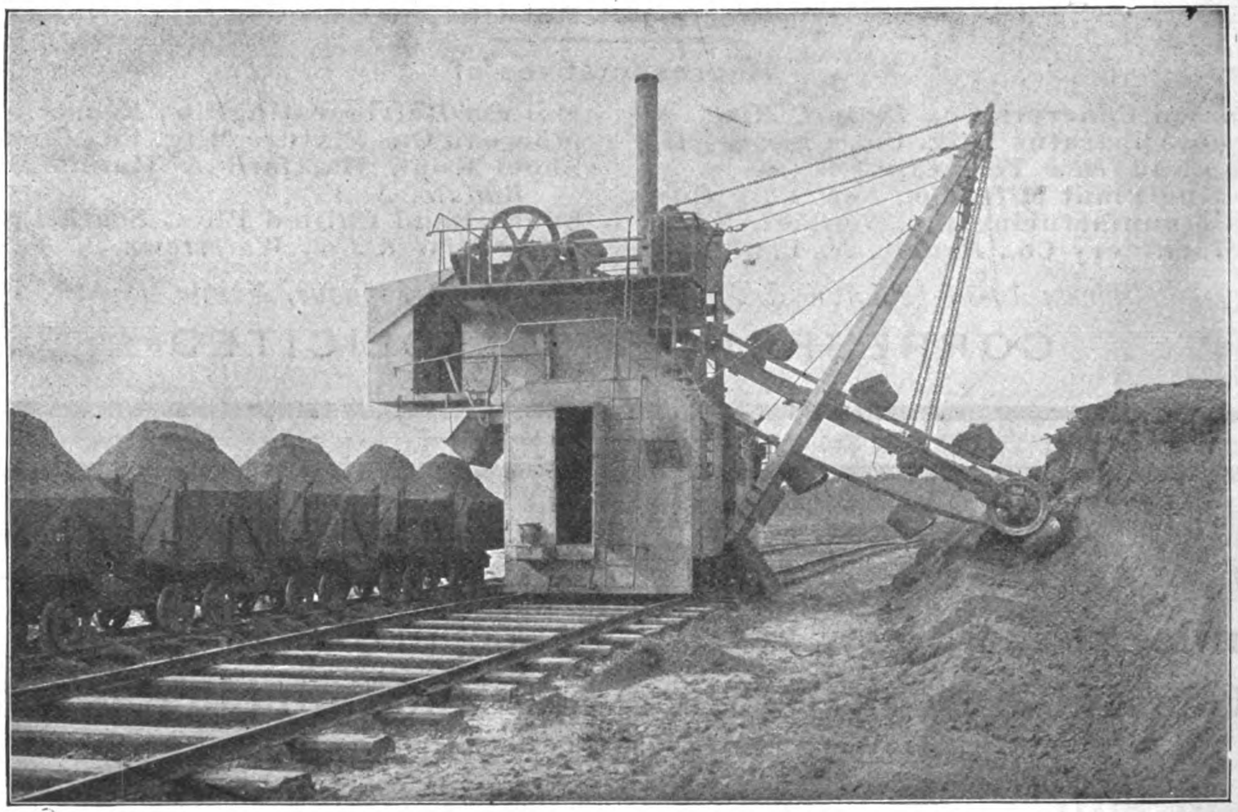
**Insurance Agencies:**
Royal Exchange Assurance Corporation
Law Union & Rock Insurance Co., Ltd.
State Assurance Co., Ltd.
China Fire Insurance Co., Ltd.
Maritime Insurance Co., Ltd.
Western Assurance Co.
Yangtse Insurance Association Ltd.
Tokio Marine Insurance Co., Ltd.

Telegraphic Address:—WARNER
P. O. Box 294
Tel. Nos. 228—104—610—182

No. 7 Carenero
MANILA, P. I.

# MACHINERY
# OF ALL KINDS

## RAILWAY MATERIAL AND SUPPLIES



RAILWAY EXCAVATOR

**AGENTS FOR:**

Felten & Guilleaume-Lahmeyer Werke, Frankfort/ Main, Electrical Supplies : : : :

Gasmotoren Fabrik Deutz, Cologne-Deutz, Original "OTTO" Gas and Oil Engines and Suction Gas Plants : :

Haniel & Lueg, Duesseldorf, Hydraulic and Mining Machinery, Heavy Steel Castings :

# SIEMSSEN & CO.

## ENGINEERS & CONTRACTORS

SHANGHAI

HONGKONG, CANTON, HANKOW
TIENTSIN, TSINGTAU

*SPECIFICATIONS AND ESTIMATES GIVEN FOR INDUSTRIAL PLANTS OF EVERY DESCRIPTION*

All Kinds of Machine Tools, Pumps, Locomobiles, Oil Engines, Dynamos and Motors carried in stock at Shanghai

**AGENTS FOR:**

Orenstein & Koppel, Ltd., Berlin, Railway Material : : : :

R. Wolf, Magdeburg-Buckau, Patent Superheated Steam Locomobiles : : : : :

Weise & Monski, Halle/ Saale, Pumping Machinery : : :

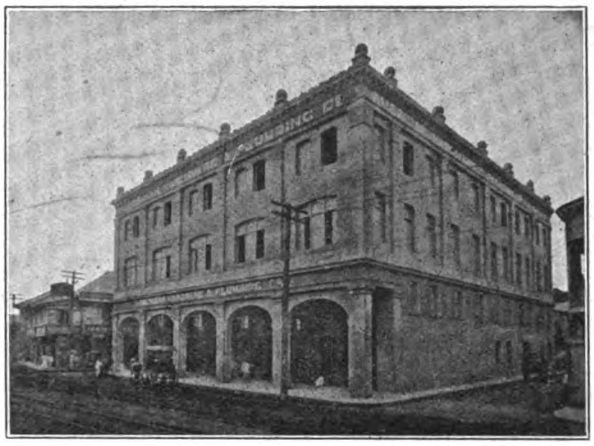
Cable Address: "SANIDAD"
Codes: Western Union, A. B. C. 5th ed.

P. O. Box 137
Telephone 3 and 4
Bodegas 1129

# AMERICAN HARDWARE & PLUMBING CO.

30 Echague, Manila -:- New York Office, Park Row Bldg.

*Heavy and Shelf Hardware.*
*Pipe and Fittings for Steam and Water Installations.*
*Steel Bars for Reinforcing, Forging and Tools.*
*Roofing Sheets, Plain Sheets, Sheet Piling, Nails.*
*A broad line of General Contractors' Supplies.*



Store, 30 Echague, Manila

*Paints and Oils*
*Lubricating Oils*
*Hose and Belting*
*Pumps and Fencing*
*Plate and Window Glass*
*Metal Ceiling, Scales*
*Stoves, Crockery*
*Glassware, General House Furnishings, Safes, Sporting Goods and Typewriters*

We carry the largest stock in the Far East of Sanitary Fixtures, and pipe and fittings for sanitary installations. We are prepared to make sanitary installations on the most favorable basis, and can furnish plans and estimates promptly. Correspondence solicited.

## CADWALLADER GIBSON LUMBER CO.

WHOLESALE AND RETAIL DEALERS AND EXPORTERS IN

PHILIPPINE MAHOGANY

Hardwood Timber for Bridge Construction and Railway Sleepers a Specialty : : : :

We Own Two Big

Sawmills and Furniture Factory

Gibson Furniture

BLINDS, SASH, DOORS, ETC., MANUFACTURED BY

Up-to-date Machinery

OFFICE FIXTURES, SHOW WINDOWS, STORE FURNISHINGS, DESKS, ETC.

ESTIMATES FURNISHED

Yard Office . . . . . 302 CALLE SAN MIGUEL, MANILA
SIMAY, BATAAN, P. I.

Cable Address:
CAHOY

Codes:
Western Union, Universal Edition; A. B. C.

## Export and Import Lumber Co.

SUCCESSORS TO

## The B. W. Cadwallader Company

P. O. Box 433 MANILA, P. I. Telephone 363

Importers of Oregon Pine Lumber

Exporters of Philippine Hardwood Lumber, Sleepers and Timber for Railroad Construction, etc. : : : : : :

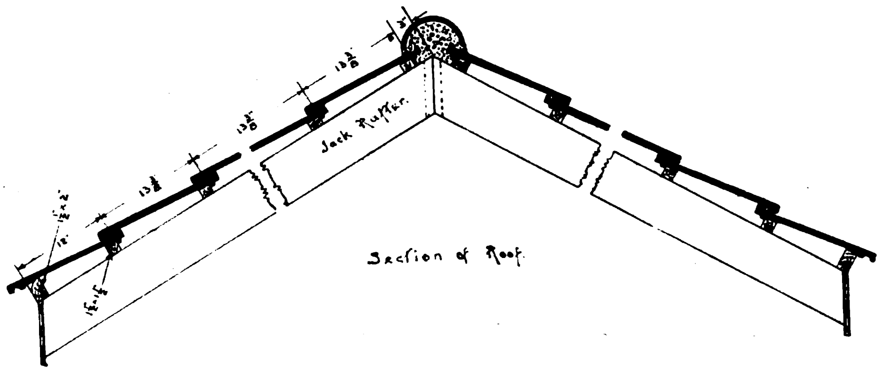
W. W. PAYNE
President and General Manager

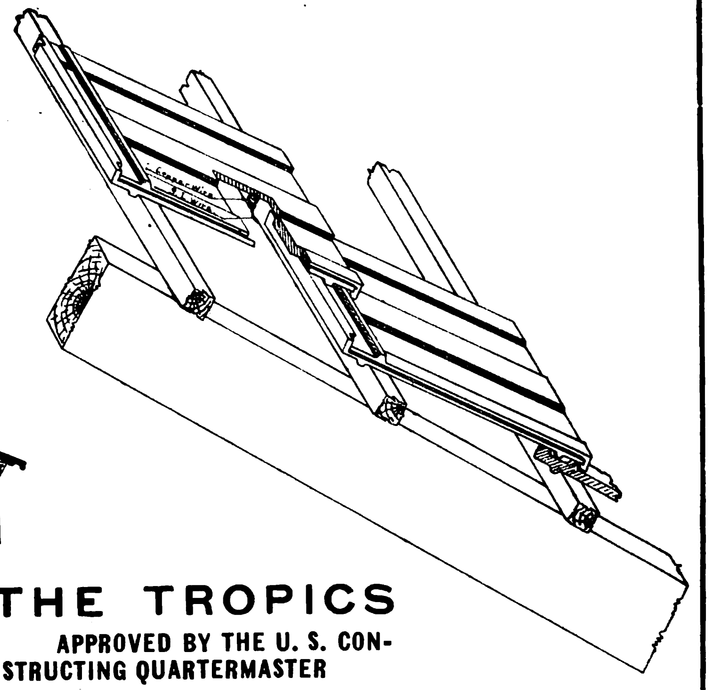
Mills and Office

51 CALLE TANDUAY MANILA, P. I.

# DOUBLE INTERLOCKING REINFORCED CEMENT ROOFING TILE

PATENT APPLIED FOR



## THE ROOFING FOR THE TROPICS

ADOPTED BY THE PHILIPPINE GOVERNMENT AS ITS STANDARD || APPROVED BY THE U. S. CONSTRUCTING QUARTERMASTER

## C. FRESSEL & CO.

G. LUDEWIG S. EN C. SUCCESSORS

Office: 118-122 Nueva, Binondo, Manila, P. I.

P. O. Box 455 -:- Cable Address: FRESSEL. Codes Used: A. B. C. 4th and 5th Editions -:- Telephone 195



Cable Address: "BANGA"—A. I. CODE

Main Office: ZAMBOANGA, MINDANAO, P. I.

## The Port Banga Lumber Co., Inc.

Mills: Port Banga, Sibugay Bay, Mindanao, P. I.

We are cutting at present:

Yacal
Molave
Guijo
Lumbayao
Pagatpat

WHOLESALE ONLY!

Posts, Pilings, R. R. Ties, Bridge Timber, Telegraph Poles.

Telegraph Cross Arms, and Lumber cut to dimensions.

Temporary Piles of 4 Group timber 10 to 70 ft. long.

Permanent Piles of Liusin, Molave, 10 to 70 feet long.

Total amount cut and manifested 12 months ending October 1st, 1908, 3,034,651 Board Feet.

The Harbor at Port Banga, where largest Ocean-going vessels can enter, is safe at all seasons of the year and anchorage is good. Ships always promptly loaded and we give absolute guarantee that material will be delivered alongside as rapidly as ship can take it. Ship Charter can be based on these facts. One to two ships per month calling at Port Banga makes it possible to make prompt deliveries.



Telephone No. 551
P. O. Box No. 284

Cable address: "GREILSAMMER"

## Greilsammer Bros.

### General Importers

### Wholesale and Retail Jewelers

Diamonds,
Jewelry,
Watches.
Sterling and
Plated Ware

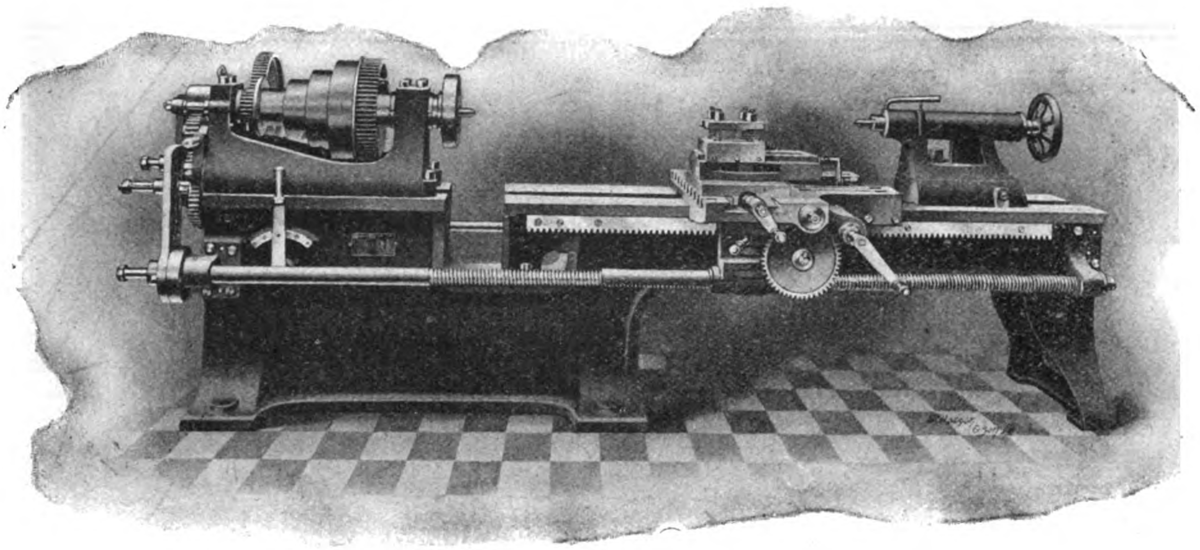
34-36 Escolta Manila, P. I.

# JARDINE, MATHESON & CO., LTD.

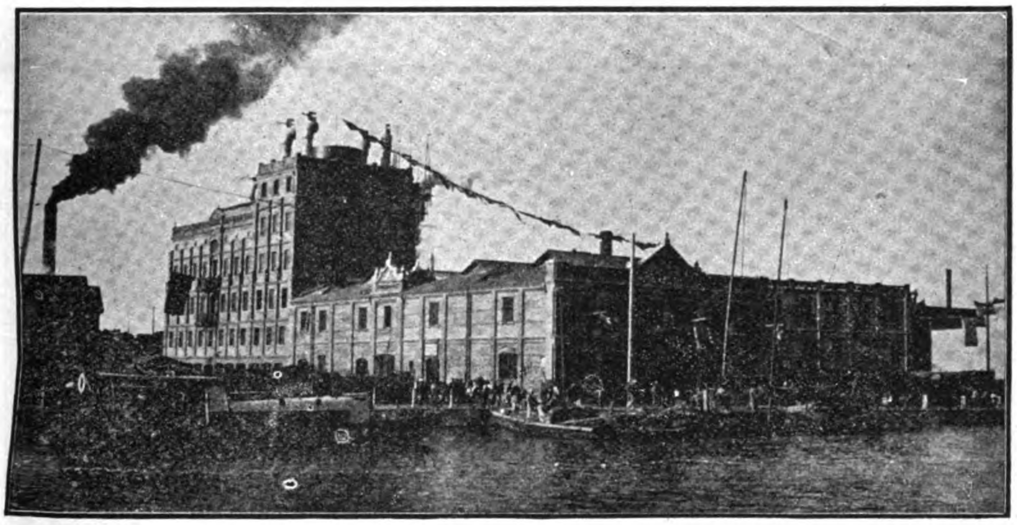
## HONGKONG AND CHINA

**MACHINERY DEPARTMENT**
Peking Road, Shanghai

**ENGINES, BOILERS, PUMPS AND ELECTRICAL MACHINERY FOR ALL PURPOSES, ENGINEERING AND ELECTRICAL SUPPLIES IN STOCK**



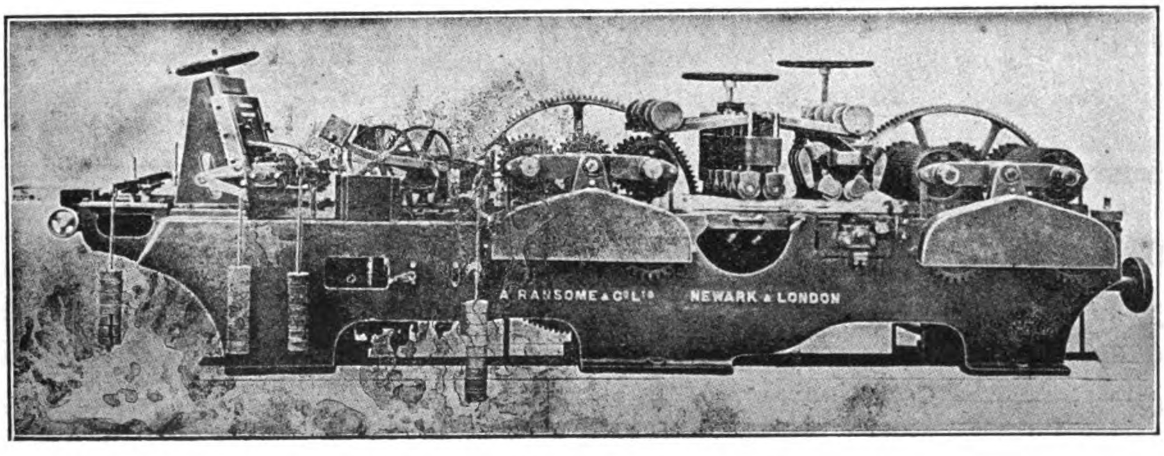
LATHES AND TOOLS OF ALL KINDS



YUEN CHUNG FLOUR MILL, SHANGHAI—MACHINERY FURNISHED AND INSTALLED—JARDINE MATHESON & CO

**SOLE AGENTS FOR:**

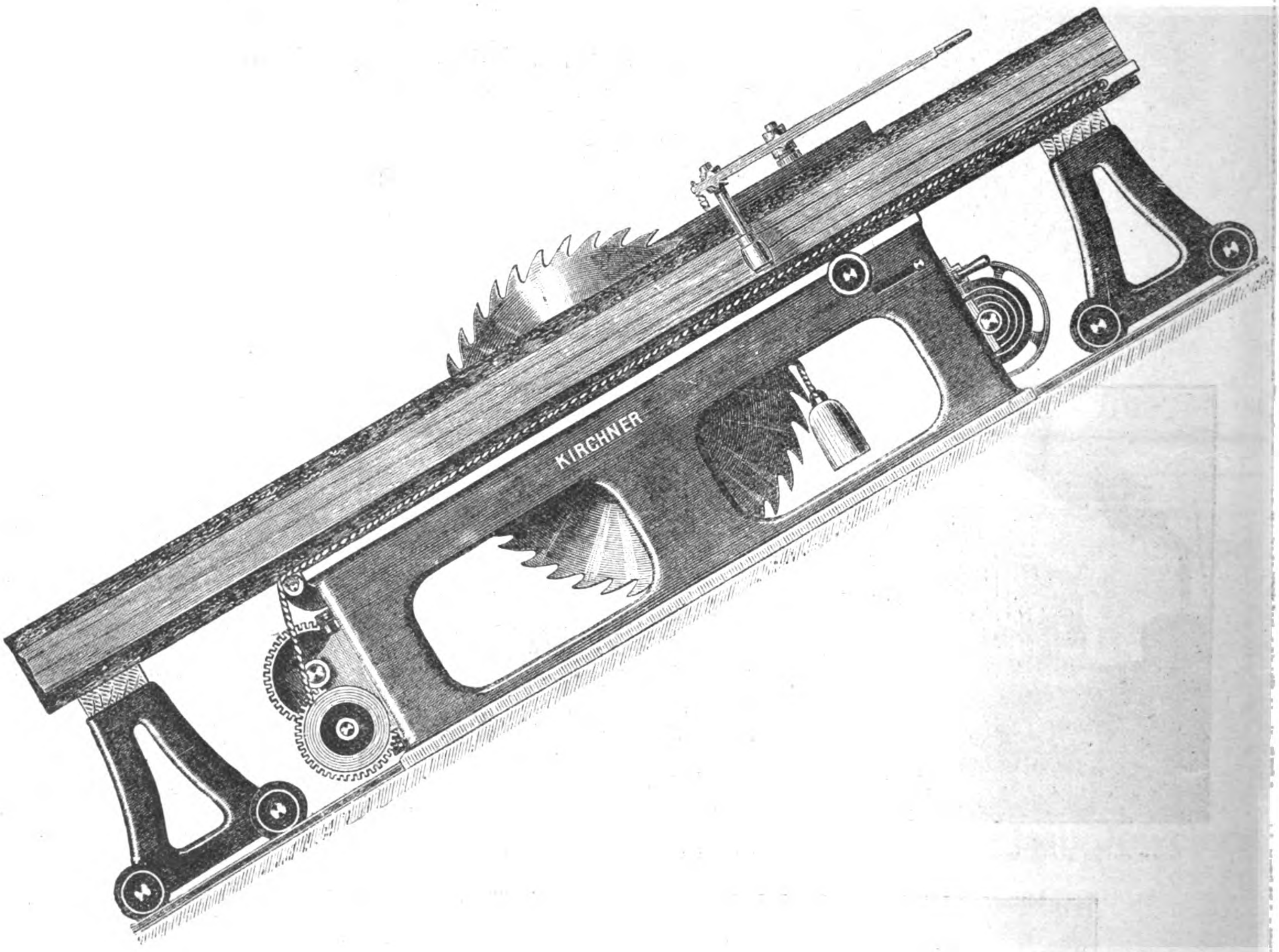
Messrs. Chas. Price & Co.
Messrs. J. B. White & Bros.
Messrs. Gwynnes, Limited.
Messrs. Marshall Sons & Co., Ltd.
Messrs. Merryweather & Sons, Ltd.
Messrs. A. Ransome & Co., Limited.
Messrs. Meredith Jones & Sons, Ltd.
Messrs. O. & W. Ormerod.
The Westinghouse Brake Co., Ltd.
Messrs. Bruce Peebles & Co., Ltd.
The British Northropp Loom Co.
Messrs. Joshua Hendy Iron Works.
Messrs. Henry Livesey, Limited.
The Barber Asphalt Roofing Co.
Messrs. Thos. & Wm. Smith, Limited
The Kitson Lights Foreign Supply Co.
North British Locomotive Co., Ltd.
Etc.




HIGH-SPEED FLOORING AND MATCH BOARDING MACHINE

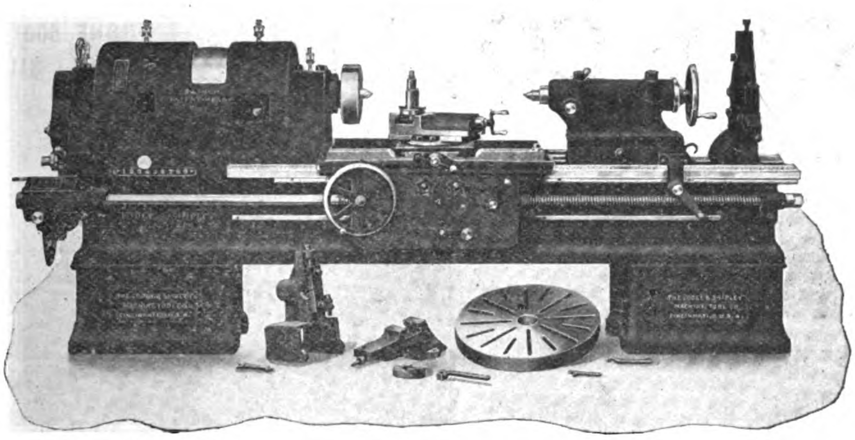
# SHANGHAI MACHINE COMPANY

Cable Address: "FERRO"




Large Stock of Kirchner's Wood Working Machines

SHANGHAI, HANKOW



**COMPARE** THIS PATENT HEAD LATHE WITH THE FIVE STEP CONE LATHE OF "BEFORE HIGH SPEED STEEL DAYS."

| | |
|---|---|
| Spindle bearings have been increased........ | 75 per cent. |
| Bridge width has been increased............ | 50 per cent. |
| Compound Rest weight has been increased. | 45 per cent. |
| Belt Power has been increased.............. | 100 per cent. |
| Tailstock weight has been increased........ | 50 per cent. |
| Total machine weight has been increased . | 50 per cent. |

You will find the substitution of steel gearing for cast iron—perfect oiling device for all headstock bearings—every cylindrical fit on the machine ground—every gear bronze bushed that revolves freely upon a stud—a hundred other ways in which increased manufacturing costs have been incurred to make it a more accurate, more convenient and more economical work producer.

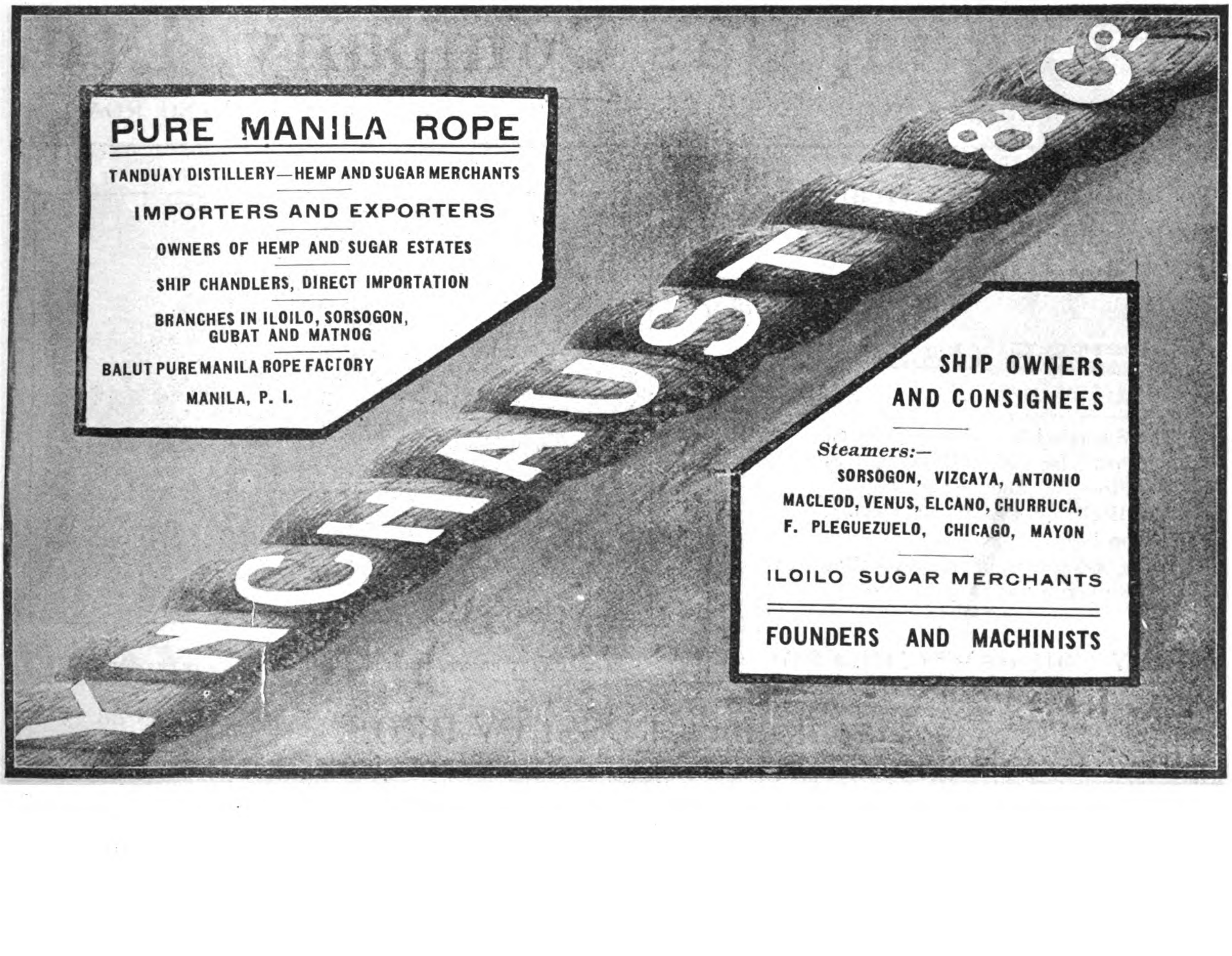
We build Engine Lathes from 7″ to 24″ centers (14″ to 48″ swing.)

# THE LODGE & SHIPLEY MACHINE TOOL CO.

**CINCINNATI, OHIO, U. S. A.**

**FOREIGN AGENTS:** CHAS. CHURCHILL & CO., Ltd., London, Birmingham, Manchester, Glasgow, Newcastle-on-Tyne; WERNER HULT, Helsingfors; DONAUWERK, ERNST KRAUSE & CO., Vienna, Prague, Budapest; V. LOWENER, Copenhagen, Christiania, Stockholm; ALFRED H. SCHUTTE, Barcelona, Bilbao, Brussels, Cologne, Milan, Paris; SCHUCHARDT & SCHUTTE, Berlin, St. Petersburg; R. S. STOKVIS & ZONEN, Ltd., Amsterdam, Rotterdam, Groningen, Brussels; ANDREWS & GEORGE, Yokohama; BEVAN & EDWARDS PROPTY, Ltd., Melbourne; ADOLFO B. HORN, Havana.

**AGENTS WANTED FOR TERRITORY IN WHICH WE ARE NOT ALREADY REPRESENTED**



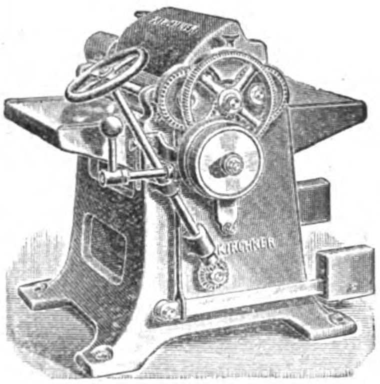
CABLE ADDRESS: "FEDERATION"

# GERMANN & CO., Ltd.

PHONE 500
P. O. BOX 310

## Electrical and Mechanical Engineers and Contractors

3 PASAJE DE PEREZ, MANILA, P. I.

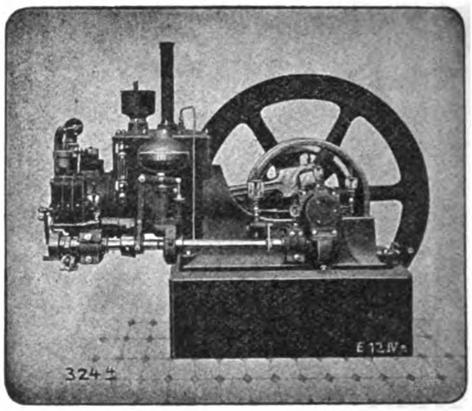


KIRCHNER'S PLANER

GENERAL MACHINERY
AND SUPPLIES

ELECTRIC LIGHT AND POWER
PLANTS

SCIENTIFIC APPARATUS
AND INSTRUMENTS



PETROLEUM MOTOR ENGINE

COMPLETE INDUSTRIAL AND AGRICULTURAL MACHINERY OUTFITS

CONSULTING AND CONSTRUCTING ENGINEERS

REPRESENTING LEADING MANUFACTURERS OF THE UNITED STATES AND EUROPE

# Shanghai Gas Company, Ltd.

Offices: THIBET ROAD — Show Room: NANKING ROAD

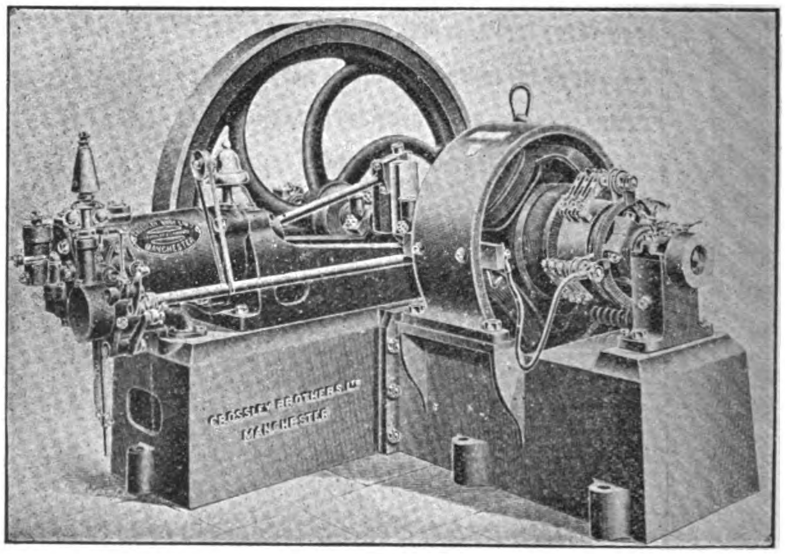
**To obtain Light, Heat or Power in the most economical way**

## USE GAS

The Shanghai Gas Company let on loan (free) Gas Cookers, Gas Fires and Radiators.
Also High Power Lamps and Geysers on hire.
Large assortment of Welsbach Gas Fittings always kept in Stock.

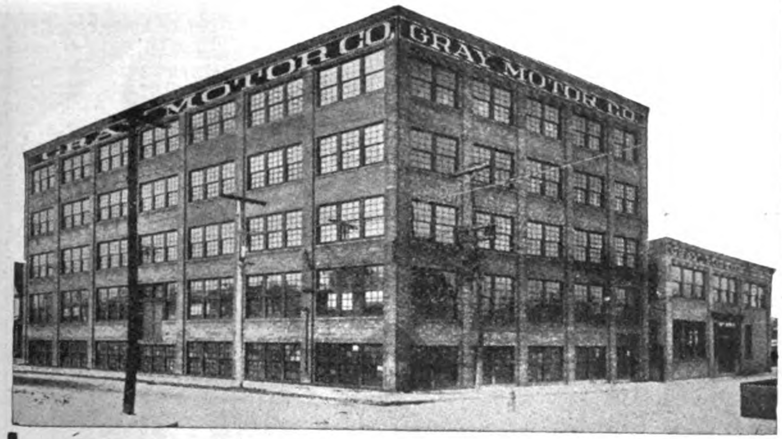
APPLY FOR PARTICULARS

威麟



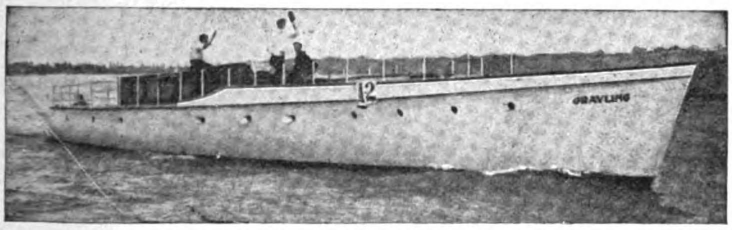
4 KILOWATT PLANT, DIRECT CONNECTED TO CROSSLEY ENGINE

## Agents for CROSSLEY BROS.

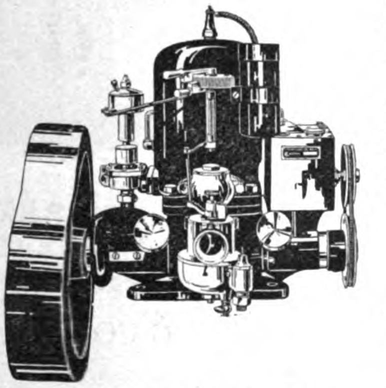



**GRAY MOTORS are made in the largest and most up-to-date plant in the world devoted exclusively to the manufacture of 2-cycle marine motors.**

We build nothing in our plant but GRAY motors. Our plant was built and equipped to build GRAY Motors and *nothing else.* We *concentrate* our entire attention, ability and capital to build the *best* motor it is possible to build, and sell it at a price that gives us the *greatest volume of 2-cycle marine business in the world.* When you get a GRAY Motor, you get the benefit of all our concentration at a price made possible only by the enormous volume of our business.




*The Fastest Cruising Motor Boat in the World* of its length and beam, the yacht Grayling, is equipped with three GRAY MOTORS.



*Features of Gray Motors:*
Fuel Economy.
Long Life.
Every part absolutely interchangeable.
Mechanical pump lubricator.
Sparl coil on cylinder.
Starts without cranking.

Long, high grade, interchangeable bearings, cylinder, piston, piston rings are ground to a mirror finish giving perfect compression. Ball thrust bearings.
Oil ring on cranks, elevated gear driven commutator, bronze gear driven pump, Krice or Schebler carburetor.

*No other motor*, high price or low price, includes all these features.

1, 2 and 3 cylinders 3 to 36 horse power

*Heavy Duty Motors for Fishing Boats* and commercial purposes. Gray Motors are made in styles and sizes suitable for *any* boat under *any* conditions.

All prices of Gray Motors include complete marine and electrical outfits, with batteries all wired up, duplicates of parts subject to the most wear and complete outfit of high grade tools. The entire outfit is carefully packed in a water proof cover and excelsior and securely fastened in an iron bound box.

The Gray Motor Company maintains a Department of Foreign Service which gives every inquiry prompt, careful and courteous attention. Correspondence is conducted in any language. Write today for catalog and full information.

# GRAY MOTOR CO.

**88 Leib St., Detroit, Mich., U. S. A.**

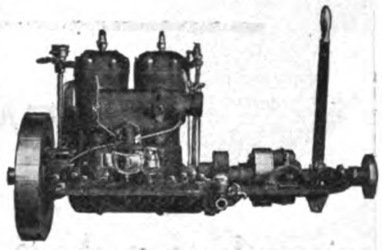
# FERRO

**The World's Standard Boat Motor**

In your choice of a motor boat, the deciding factor should be the engine. On it depends your ultimate pleasure and satisfaction in boating.

By choosing the Ferro Motor, you take no chance. You know that you are getting a marine engine which, in actual service, has proven itself the world's standard.

The Ferro design embodies the most advanced ideas in engine construction. The materials and workmanship that enter into every process of Ferro manufacture are up to the highest standard of quality.



Ferro motors are built to meet conditions in the Far East. They are today giving satisfaction in all parts of the world.

Write us for full information on boats, motors and equipment. We can help you select your exact requirements. Ferro literature sent free on request. A complete line can be secured from the nearest office of this paper.

**We Want Agents**

We still have some favorable territory for which we have no selling agents. If you are in a position to take up the sale of Ferro Motors, write us in full.

The Fastest Boat in Auckland Harbor, New Zealand, Equipped with 25-HP Ferro Engine

**THE FERRO MACHINE & FOUNDRY COMPANY**

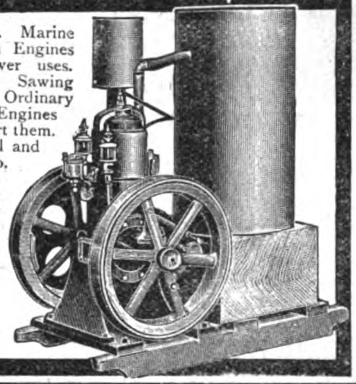
Largest Marine Engine Builders in the World.

Main Offices,
820 Superior Ave.
Cleveland, O., U. S. A.

New York Office.
44 Cortlandt St.,
2nd Floor

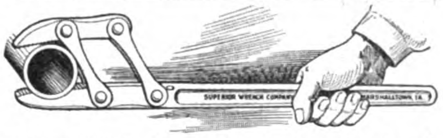
# DETROIT OIL ENGINES Fully Warranted

Marine Oil Engines for boats. Marine Reverse Gears. Stationary Oil Engines for farms, shops, and all power uses. Pumps and pumping outfits. Sawing outfits. Electro-generating sets. Ordinary lamp oil used for fuel. Detroit Engines require no heater or lamp to start them. Attachments for petrol, alcohol and Gas. Sizes from 2 hp. to 100 hp. One to eight cylinders. Prices very attractive. Write for agency terms. Valuable territory offered to reliable firms or individuals. Bank references given. Handsomely illustrated catalog sent on request.



**DETROIT ENGINE WORKS, Meldrum Avenue, Detroit, Michigan, U.S.A.**

# IMPROVED AUTOMATIC WRENCH




**Self-adjusting, works automatically on pipes, rods and nuts. Strongest, simplest and handiest wrench ever made. Grips instantly, the harder the pull the tighter the grip. Especially suitable for Machine shops, Garages and Dock Yards. Made in the following sizes:**

| | | | | |
|---|---|---|---|---|
| 6 in. | opens to | ¾ in. | Price | 2s. |
| in. | " | 1⅛ in. | " | 3s. |
| 12 in. | " | 1½ in. | " | 4s. |
| 16 in. | " | 2 in. | " | 5s. |
| 20 in. | " | 2½ in. | " | 6s. |

**Sample wrenches sent prepaid on receipt of Money order.**

**IMPORTERS, DEALERS and AGENTS. The "Superior Wrench" is in use throughout the United States and in many foreign countries. Write for our special offer and printed matter.**

**SUPERIOR WRENCH CO., Marshalltown, Iowa, U. S. A.**

# Fearon Daniel & Co.

# Andersen Meyer & Co.

## ENGINEERING DEPARTMENT

**4 and 5 Yuen Ming Yuen Road, Shanghai**

**SOLE AGENTS FOR:**

GENERAL ELECTRIC CO. OF NEW YORK
Electric Light, Power, and Railway Apparatus, Electric Supplies.

BRITISH THOMSON-HOUSTON OF RUGBY
Electric Engineers and Manufacturers.

BUDA FOUNDRY & MANUFACTURING COMPANY
Railway Material, Track Supplies, Etc.

McCONWAY & TORLEY CO.,
Janney Car Couplers.

C. T. HAM MANUFACTURING CO.,
Lanterns and Lamps.

BOLTE & WEYER CO.,
Gasoline Lighting Systems.

KUEFFEL & ESSER,
Drawing Materials and Surveying Instruments.

THE FERRO MACHINE & FOUNDRY COMPANY,
Gasoline Motor Boat Engines.

THE AVERY MANUFACTURING CO.,
Agricultural Implements.

THE H. W. JOHN'S-MANVILLE CO.,
Asbestos Goods, Steam Packing, Etc.

A. & P. STEVEN,
Lifts.

AJAX FIRE ENGINE WORKS,
Chemical Fire Engines.

DEMPSTER, MOORE & CO.,
Machine Tools.

DE LA VERGNE REFRIGERATING CO.,
Ice & Refrigerating Machinery.

DE LOACH MANUFACTURING CO.,
Wood Working Machinery.

THE SULLIVAN MACHINERY CO.,
Mining Machinery.

**MACHINERY AND ENGINEERING SUPPLIES**

**RAILWAY MATERIAL, ELECTRIC LIGHT AND POWER PLANTS**

# VELUVINE

BULLDOG-PAINTS AND VARNISHES

BULLDOG-brand.

F. A. v.d. LOO & Co

Shanghai

## IS THE PAINT OF THE FUTURE

For Out and Indoor Work of Every Kind

RAILROADS
TRAMWAYS
BARRACKS
RESIDENCES
SCHOOLS
YACHTS
STEAMSHIP
COMPANIES
HOSPITALS
HOTELS
BUILDINGS
FACTORIES

A NEW and perfected Veluvine paint superseding Varnish, with remarkable spreading, elastic and weather resisting properties. **One coat equals two coats of common paint and one of varnish.** Sanitary. Washable. Will not crack. Will not peel. Will not blister. Will not fade. Twelve months' guarantee given by the manufacturer. Saves Time, saves Labour, saves Varnish, saves Money.

**ONE GALLON PROPERLY APPLIED WILL COVER ABOUT 90 SQUARE YARDS**

Veluvine paint spreads like best wearing body Varnish, and **dries slowly** in the same way, but is far more elastic, and therefore does not crack, as even the best Varnishes will. **Veluvine paint is not an enamel,** and should not be compared with enamels for price. It is much **more economical, more durable** and covers **more surface**. Veluvine paint is the only satisfactory paint for Galvanised Iron and Galvanised Steel.

Any colour not included can be matched. Special quotation on application with sample of exact tint required.

**Prices Quoted on Application**

General Agents for CHINA, JAPAN, SIAM

# F. A. VANDER LOO & CO.

2 Jinkee Road ✤ Shanghai, China ✤ Telephone 2530

*Agents for the Philippines: Messrs. SPRÜNGLI & CO.*

## Baldwin Locomotive Works

Principal Offices and Works:
PHILADELPHIA, PA., U. S. A.
Cable Address: "Baldwin, Philadelphia"

*Agents for China:* *ARNHOLD, KARBERG & CO.*
*Agents for Japan:* *FRAZAR & SALE, Yokohama*

Builders of
LOCOMOTIVES
of every description

Including
ELECTRIC LOCOMOTIVES
ELECTRIC TRUCKS

## Standard Steel Works Co.

HARRISON BLDG., PHILA., PA., U. S. A.

SOLID FORGED AND
ROLLED STEEL WHEELS

STEEL TIRED WHEELS, FORGINGS

STEEL AND IRON AXLES, CASTINGS

ELLIPTIC AND HELICAL SPRINGS

**Silver Leaf Lard**
**The Lard of**
**Standard Quality**

All users of Lard will appreciate the uniform quality of this Standard product. Silver Leaf Lard wins friends everywhere it becomes known.

**Swift's**
**Jewel Compound**
**a high grade**
**Substitute for Lard**

Costs a little less than Silver Leaf Lard and is therefore used where large quantities are required. Its use assures wholesome, tasty dishes. Not affected by changes of climate.

Both the above products packed in pails, tubs, barrels and tierces.

Swift & Company, U. S. A.

ORIENTAL HEADQUARTERS
SWIFT & COMPANY . . . . . No. 32 Nanking Road, Shanghai
WM. H. ANDERSON & CO., . . Foot Santa Cruz Bridge, Manila

Patents issued in 23 Countries. Pending in other countries.

***ABSOLUTELY RELIABLE***

GRIFFIN S. ACKLEY, PATENTEE

## THE ACKLEY ADJUSTABLE BRAKE

**Adapted to all kinds of Cars. As Service or Emergency Brakes**

Takes up slack Chain quickly. *Powerful*, Easily installed. All moveable parts revolve on roller bearings which gives ease of action and quick release.

Full information or trial Brakes on application to any of the following Agents:—

**FRANK L. STRONG**
Agent for Manila, P. I.

**CHINA GENERAL ENGINEERING CO.,**
Agents for China, Shanghai.

**SALE & FRAZER LIMITED,**
Agents for Japan, Korea, and Manchuria, Tokio.

AUSTRALIAN AGENCY:

**R. W. CAMERON & CO.**
Sydney, Melbourne, and Wellington

Kontinentale Bremen, Ges., M. B. H. Lankwitz. Berlin.
Schmassmann & Co., 110 Bahnhofstrasse, Zurich.
C. Dubbelman, 45 Rue de la Caserne, Bruxelles.
G. S. Albanese, Ingenieur, 62 Rue Saint-Lazare, Paris.

OR DIRECT TO

**BRITISH ACKLEY BRAKE CO.**
Westinghouse Building, London, W. C.

**ACKLEY BRAKE COMPANY**
50 Church Street, New York City, U. S. A.

Honorary Commissioners Representing the "Associated Chambers of Commerce of the Pacific Coast."

From left to right beginning at the top: (1) E. P. BOSBYSHELL. (2) C. HERBERT MOORE. (3) WILLIAM FRANKLIN KNIGHT. (4) GEORGE BURNHAM. (5) WM. H. DICKSON. (6) WILLIAM GERSTLE. (7) FRED L. WALDRON. (8) ROBERT DOLLAR. (9) SAMUEL R. STEIN. (10) ORANGE M. CLARK. (11) CHARLES J. FIELD. (12) WILLIAM PIGOTT. (13) WILLIS HOLYOAKE BOOTH. (14) KARL BUTSCH. (15) RICHARD M. HOTALING. (16) L. R. MANNING. (17) WILLIAM H. WEILBYE. (18) E. S. MOULTON. (19) CHARLES V. BENNETT. (20) E. F. BLAINE. (21) JACOB FURTH. (22) JOHN HENRY SHAW. (23) E. A. YOUNG. (24) EDWARD C. BROWN. (25) C. H. HYDE.

# THE FAR EASTERN REVIEW

COMMERCE ❂ ENGINEERING ❂ FINANCE

VOL. VII. MANILA, P. I., SHANGHAI, AND YOKOHAMA, NOVEMBER, 1910 No. 6.


## VISIT OF THE HONORARY AMERICAN COMMISSIONERS TO CHINA

The visit to China of the Honorary Commercial Commissioners, representing the Associated Chambers of Commerce of the Pacific Coast to China as guests of the Associated Chinese Chambers of Commerce, which included an itinerary of twenty-five Chinese cities and extended over a period of six weeks, was one of the most important events in the history of Chinese-American intercourse. The result means a better understanding between the two peoples together with the extension of international commerce between the two countries. Associations were formed of a nature that will surely tend to strengthen traditional friendship and the precedent once established, we may hope to see an annual exchange of courtesies between the two great commercial peoples whose respective aims are not dissimilar. Throughout the entire tour of Chinese cities from Shanghai where the party arrived, September 16, until its departure from Hong-kong, October 26, the visitors were received with great cordiality and enthusiasm by officials, gentry and merchants, and the Chinese and foreign press devoted columns daily to the detail of the receptions. In all the Honorary Commercial Commissioners numbered twenty five.

RECEPTION GIVEN TO THE PACIFIC COAST COMMISSIONERS AT THE RESIDENCE OF LI CHING CHAI.

The Commissioners sailed from San Francisco on the Korea on August 23 and an organization for the purpose of effectually directing this important visit was effected soon after leaving port.

The following are the officers of the Associated Chambers of Commerce of the Pacific Coast:—President, Mr. Willis H. Booth, Los Angeles; Vice-President, Mr. Wm. L. Gerstle, San Francisco; Secretary-Treasurer, Mr. C. W. Burks, San Francisco.

Executive Committee: Wm. L. Gerstle, San Francisco; J. D. Lowman, Seattle; Everett G. Griggs, Tacoma; F. E. Goodall, Spokane; Wm. McMaster, Portland; Willis H. Booth, Los Angeles; W. S. Mackay, Oakland; G. A. Davidson, San Diego.

The Hon. Hamilton Butler, American Vice Consul at Tientsin, was official interpreter for the Commission; Charles V. Bennett was secretary and Chas. J. Field, historian.

The party from continental America was entertained at Honolulu by the local Chamber of Commerce.

At Yokohama the Commission was obliged officially to decline warm invitations from

the commercial bodies and officials there as etiquette required that as guests of the Associated Chinese Chambers of Commerce they were not free to accept other foreign hospitality. However, a number of members renewed old friendships among the Japanese by whom they were privately entertained.

It was at Yokohama that Mr. Y. C. Tong, of Shanghai, boarded the Korea with the first greetings of welcome from the Associated Chinese Chambers. Accompanying Mr. Tong were Mr. Chu Pan Tay of Shanghai and Mr. Fung Kwo Shung of the Chinese Foreign Office.

The Nagasaki Chamber of Commerce sent a warm invitation by wireless which also had to be declined. American Consul Deichman gave a reception that was largely attended.

When the Korea arrived at Shanghai, they were met by the following officials and representatives of the Associated Chinese Chambers of Commerce:

Taotai Chow Ching-seng, President of the Shanghai Chamber of Commerce; Mr. Shao-Ging-dow, Vice-President of the Chamber; Mr. Li Yuoing-shu, Taotai Shen Tun-ho, Mr. Run-chi, Taotai Yen Tse-chuing, Mr. L. H. Han, Mr. Tsu Tsing ching, Dr. A. P. Wilder, Consul-General for the United States, Mr. J. R. Patterson, Dr. J. C. Ferguson and others.

The visitors were entertained at Chao's Garden to a garden party where the Commissioners were received by representatives of the Associated Chambers of Commerce and Chinese officials and gentry. The principal Chinese who received the guests were H. E. Shen Tun-ho, Taotai Chou Chin-chen, President of the Shanghai Chinese Chamber of Commerce, and Taotai Yen Tzu-chen, Vice President of the same Chamber, the Shanghai Taotai, the Shanghai City Magistrate, the Mixed Court magistrates and junior officials. In the evening the delegates and the ladies of the party were given a reception at the Y. M. C. A. The following comprised the reception committee: Mr. T. T. Wong, President of the Association; Mr. S. K. Tsao, Secretary; Mr. Chang Niehyin, Chairman of the Social and Entertainment Commitee; Messrs. T. T. Kwong, C. F. Ling, P. Y. Kung and other Chinese. The Rev. W. E. Taylor, General Secretary of the Y. M. C. A., Mr. Charles L. Boynton of the General Committee and Mr. G. A. Fitch, introduced the guests.

H. E. WU-TING-FANG

FORMERLY MINISTER TO AMERICA, WHO WELCOMED THE AMERICAN COMMISSIONERS AT SHANGHAI

President Wong welcomed the visitors and expressed appreciation of America's assistance in making the present commodious quarters of the Shanghai Association possible as well as branches in the principal cities of the Empire. He assured them they would be welcomed in every section of China as there was "a growing consciousness on the part of the Chinese people of the importance of improving commercial relationship with America." Continuing, he said: "I want you to visit the Nanking Exposition and the factories and industrial plants to see what had been accomplished and I hope you will have patience with China. We want your advice and encouragement and to give us the secret of your great prosperity on the Pacific slope, so that we may also share in similar attainments."

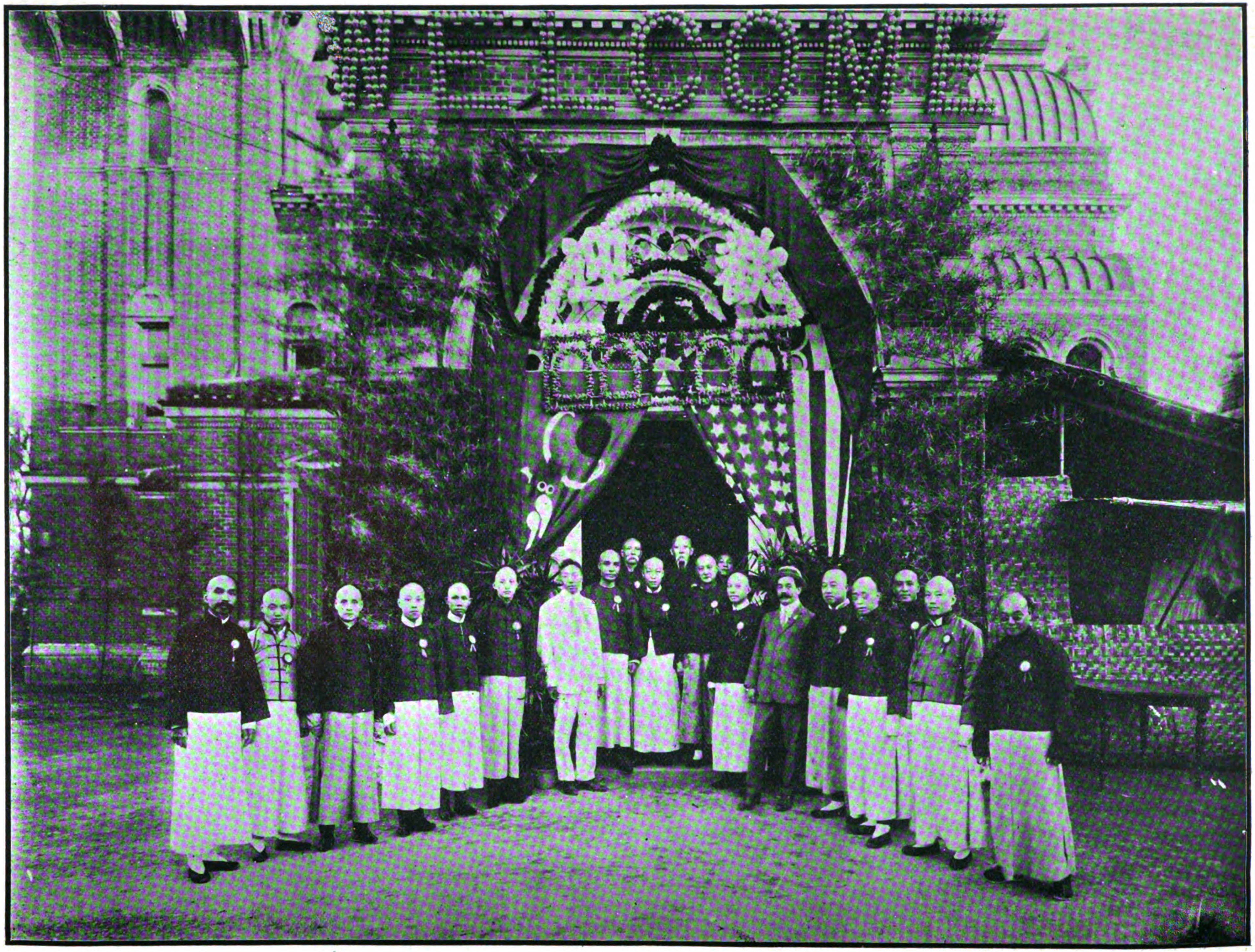
Then followed a reception in honor of the visitors by the American community at the Palace Hotel under the direction of the following committee:

Dr. Amos P. Wilder, Consul-General, (chairman), Messrs. Charles H. Blake, J. C. Fergusson, J. N. Jameson, H. L. Merrill, W. L. Merriman, J. R. Patterson, Geo. A. Stuart, J. A. Thomas, and F. J. Raven (Secretary).

During its visit the party visited the Chinese Bund, the Chinese Water Works, the Kiangnan Docks, Yih Hui Woolen Mills and the Lung Chang Paper Mill and other places of interest. A reception was given by the Shanghai Taotai in the Bureau of Foreign Affairs and also a banquet and theatrical performance in Chang Su-ho's Garden as guests of the Chinese Chamber of Commerce were among the many functions.

The last named event was up to this time the first official function in Shanghai, although, throughout the trips of inspection, the visitors enjoyed many pleasant surprises and were overwhelmed with attentions.

The Chinese banquet was a most elaborate affair. The decorations were superb. His Excellency Shen Tun-ho presided and was supported by H. E. Wu Ting-fang, formerly Chinese Minister to the United States, Taotai Chou Chin-chen, Taotai Chung Mun-yew, Taotai Y. C. Tong, Taotai Yu-Ya-ching, Taotai Yen Szu-chun, Chu Lau-fang, Chu Li-chi. Dr. Amos P. Wilder was seated on the Chairman's right, with H. E. Wu Ting-fang, on the opposite side of the table. There were also present: Mesdames Weilbye, Moulton, Booth, Gerstle, Patterson, Furth, Dollar, Young, Morton, Read, Manning Holiday, Saunders, Butler, Dickson, Bosbyshell, Piggott, Clark, Howe, Merriman, Hyde, Tucker, Raven, Stuart, Shorrock and Miss Terry, Messrs. Willis, H. Booth, E. S. Moulton, E. P. Bosbyshell, E. A. Young, W. H. Weilbye, Dr. J. M. Shannon, Cal. J. Butsch, O. M. Clark, T. D. Honeyman, G. Burnham, W. F. Knight, W. L. Gerstle, R. M. Hotaling, Robert Dollar, C. V. Bennett, J. Furth, E. F. Blaine, S. R. Stern, J. H. Shaw, C. H. Moore, L. R. Manning, W. H. Dickson, L. R. Freeman, C. H. Hyde, E. C. Brown, F. L. Waldron, W. Piggott and C. Field (Commissioners), Messrs. Hamilton Butler, R. W. Dorsey and J. H. Hadley (U. S. Vice-Consuls), Mr. H. F. Merrill (Commissioner of Customs), Mr. J. R. Patterson (President of the American Association of China), Dr. Hawks Pott, Dr. F. E. Hinckley, Dr. J. C. Ferguson, D. Landale (Chairman of the Municipal Council), the President of the French Council, Lieut Col. A. A. S. Barnes, Messrs. J. H. Darrah, T. Cobbs, D. Wilson, J. P. Jameson, H. M. Hykes, J. T. Cokery, E. K. Howe, C. E. Ferguson, P. S. Wisner, G. C. Tucker, A. S. Fobes, W. S. Emens, L. Everett, J. J. Connell, C. D. MacGrath, R. C. Maton, J. K. Davies, F. J. Raven, W. A. Reed, N. T. Saunders, F. D. Cheshire, A. F. Barradas, L. E. Canning, L. E. P. Jones, J. B. A. Mackinnon, M. Laferriere, L. C. Downing, A. Monestier, J. D. Read, F. H. Gamburg Marshall, W. D. Little, E. H. Murray, W. S. Ridge, V. Wright, A. W. U. Pope, J. O'Shea, T. F. Millard, J. D. Smart and others.

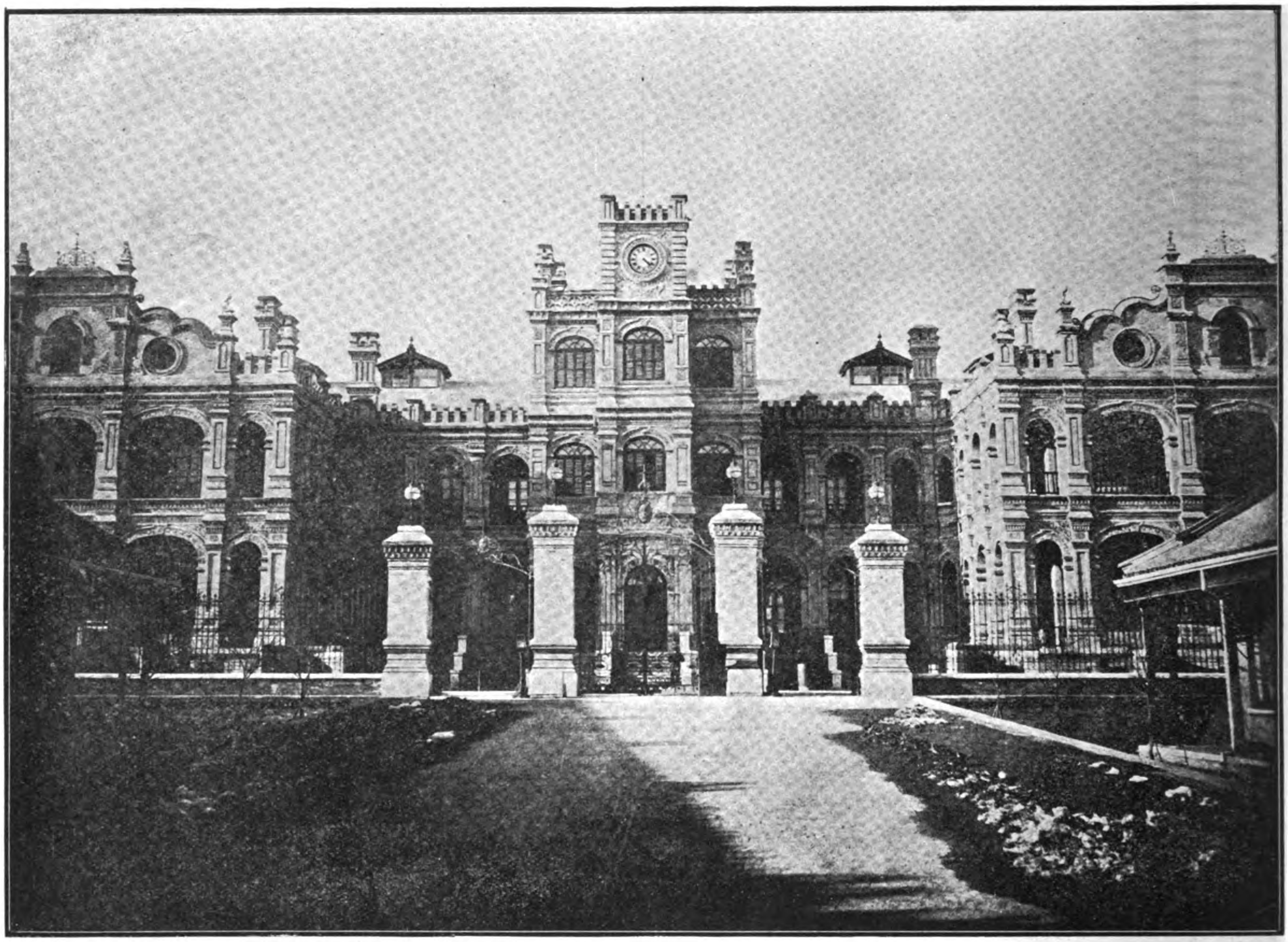



REPRESENTATIVES OF THE ASSOCIATED CHINESE CHAMBERS OF COMMERCE FROM LEFT TO RIGHT. (1) WANG PU YIN. (2) TING FREI CHENG. (3) ............ ....(4) HOONG CHING CHENG. (5) LIANG WEI MING. (6) HOONG CHING CHIA. (7) LEE TSU LIEN. (8) YU YEAO TCHING. (9) YOE PING HANG. (10) SUB-DIRECTOR SHAO CHING TANG. (11) DIRECTOR GENERAL CHOW CHING CHENG. (12) DIRECTOR WANG YIH TING. (13) CHEE TEYO TCHENG. (14) ............ (15) BONADAS AT DEH, FOREIGN SECRETARY. (16) CHENG TSANG CHENG. (17) CHEE SING CHIH. (18) KU CHING YOONG. (19) TANG SHAN CHIA.

A semi-foreign menu was served and a theatrical performance continued through the dinner.

H. E. Wu Ting-fang proposed the toast of the President of the United States which was duly honored, following which President Booth proposed the toast of the Emperor of China which was also honored, and then His Excellency proceeded to the official welcome of the guests would enjoy themselves and that they would always remember the Chinese people as friends.

His Excellency was followed by Dr. Wilder and Mr. J. R. Patterson, President of the American Association, after whom Willis Booth, President of the Commission, expressed appreciation of their reception by the commercial bodies represented and emphasized American cannot expect to receive the benefit of China's trade and not give something in return. That is the keynote of this mission and we want China to feel that our labors here are directed entirely to the end of mutual advantage. I sincerely hope that the Dragon and the Eagle may work together side by side for the continued peace and prosperity of China and the United States."



HEADQUARTERS OF THE WAR DEPARTMENT, PEKING

the visitors. He referred to the traditional friendship and the neighborly relationship now that America had acquired islands in the China sea. Touching on several evidences of America as a friend in need, he then referred to the growth of trade between the two countries and said:

"Trade between America and China is increasing every year and it is quite natural that the merchants of both countries should devise means to extend and develop it. Trade and commerce are beneficial to both countries, but in order to further expand, it is necessary for the people of both nations to have personal dealings with each other." He referred to his experience in America where the American businessmen were greedy for information and advice and, while his official position largely prevented him from complying, he gave what he could. "China is in just such a position today. No nation or people is perfect. You will see China's industries, her work, and her people, and you are invited to examine their methods and if you find reason for criticism all I ask of you is to put those interested on the right road to overcome their shortcomings." He hoped that ica's friendship for the people of the Empire. "We have come," said he, "to drink at those fountains of wisdom and knowledge which have been China's greatest heritage for ages and ages. America as a nation is young and we have many things to learn, and of these matters we propose to learn much from our Chinese friends. We come not to teach but to absorb from the Chinese, through personal association, that wisdom and that knowledge of which you have every reason to feel proud."

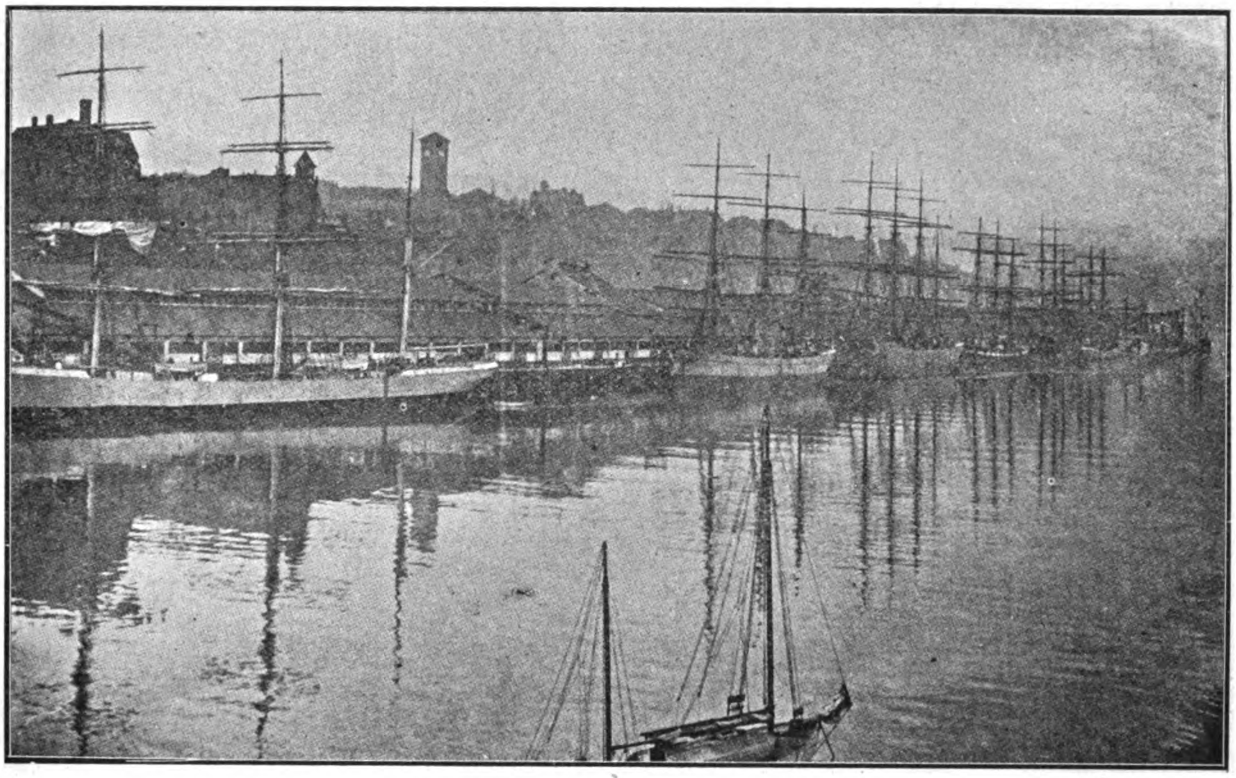
He stated that the visit was essentially of a commercial character, having for its purpose better understanding of Chinese methods and to inform themselves as to the best means of promoting better trade relations. "We have no right," said he, "to come here investigating China's industrial conditions and expect to do business with you unless it is to your interest to do business with us. Our purpose is to find out, if we can, what possible resistance there might be to China doing business with America and to endeavor to eliminate, so far as we can, everything that tends to make it harder to do business together. We cannot expect China to do business with us unless conducted on a reciprocal basis. We

Other functions in Shanghai included a garden party at the International Institute, a press dinner by the Associated Chinese Press at the Palace Hotel.

Visits were made to Hangchow, Nanking and Chinkiang. and from the latter place the party proceeded by the China Merchants' Steam Navigation steamer to Hankow, after a visit to the Ta Yeh iron mines. The Hangyang Iron Works proved of the greatest interest to the visitors. Throughout, they were given a most enthusiastic welcome by officials, gentry and commercial bodies, and the most elaborate entertainment was arranged at every point.

From Hankow, the visitors proceeded to Peking over the Peking-Hankow Railway by special train. At the capital the party put up at the Wagon-Lits Hotel and the visit was marked by a continuous series of functions, among which was an audience with H. I. H. the Prince Regent. They were presented by Minister Calhoun, accompanied by Dr. C. D. Tenney. The Prince Regent welcomed the delegates and expressed the hope that the visit would result in increase of trade between the two countries.

Among the important functions was a tiffin in the reception hall of the Wai Wu-pu as guests of the Grand Councillor Na Tung and of the President Tseo Chia-nai and Vice-Presidents Hu Wei-teh and Tsao Ru-ling. A visit was also made to the Winter Palace and a dinner was given by the newly organized senate.



WATER FRONT, TACOMA, WASHINGTON

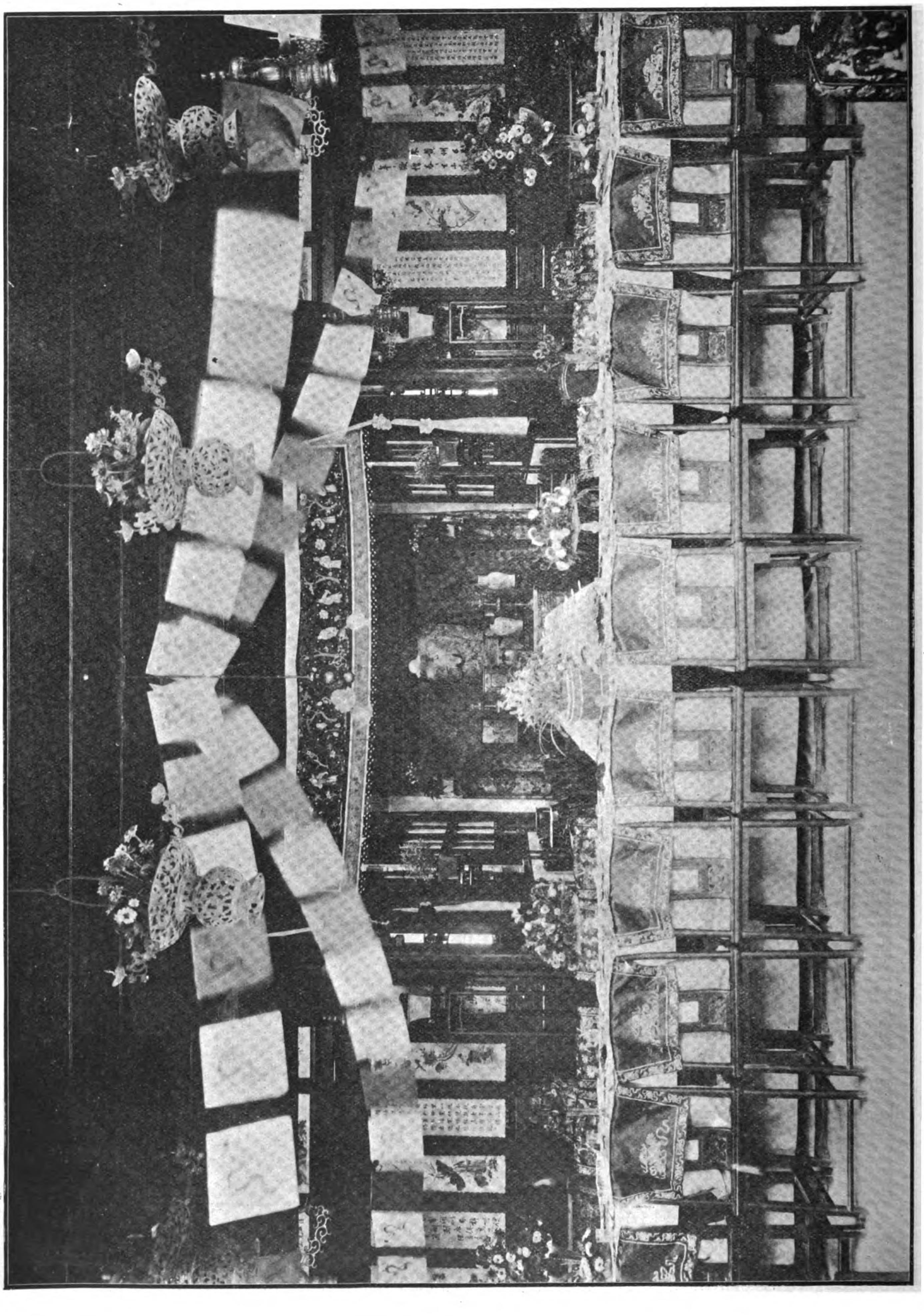
Leaving Peking, the party spent a few days in Tientsin visiting the Peiyang University, as guests of the Viceroy, and other places of interest. They were entertained to dinner in the delightful pleasure grounds of H. E. Sun Chung-ying, of the Ministry of Finance and Commerce. During the visit President Wang Chun-ling, of the Tientsin Chamber of Commerce, assisted in making the visit memorable.

From Tientsin the party proceeded by steamer to Foochow calling at Tsingtao and Chefoo where it was warmly received. From Foochow they proceeded to Amoy where the local Chamber of Commerce had arranged several interesting trips, and tiffin was served at the famous Nam Pu Tao temple.

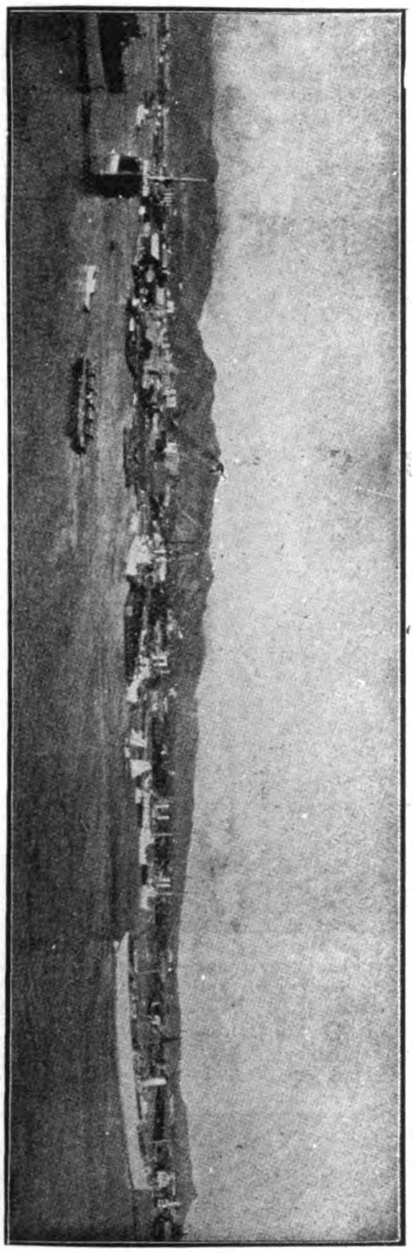
The delegates then proceeded via Hongkong to Canton where a remarkable program was prepared by the officials and the Chamber of Commerce. The party arrived October 20 and were kept busily engaged visiting the principal points of interest. Among the important functions was a dinner by H. E. the Viceroy, H. E. the Tartar General, and H. E. the Admiral of the Two Kwangs, where notable addresses were heard.

A PORTION OF THE WATER FRONT OF SAN FRANCISCO

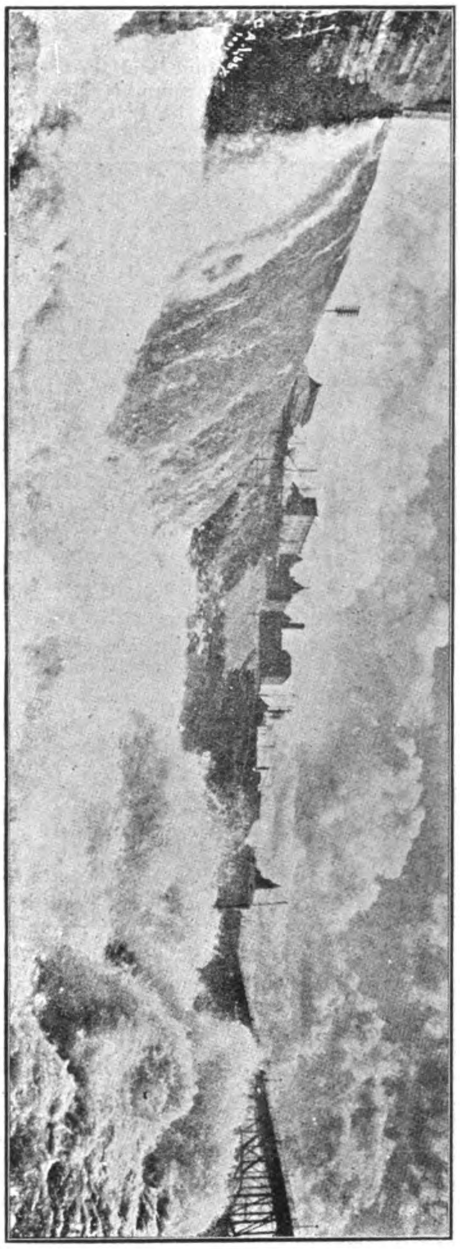
The most important feature of the visit was a trade conference held early in the visit to Canton with the members of the Chamber of Commerce where important subjects were thoroughly threshed out. The



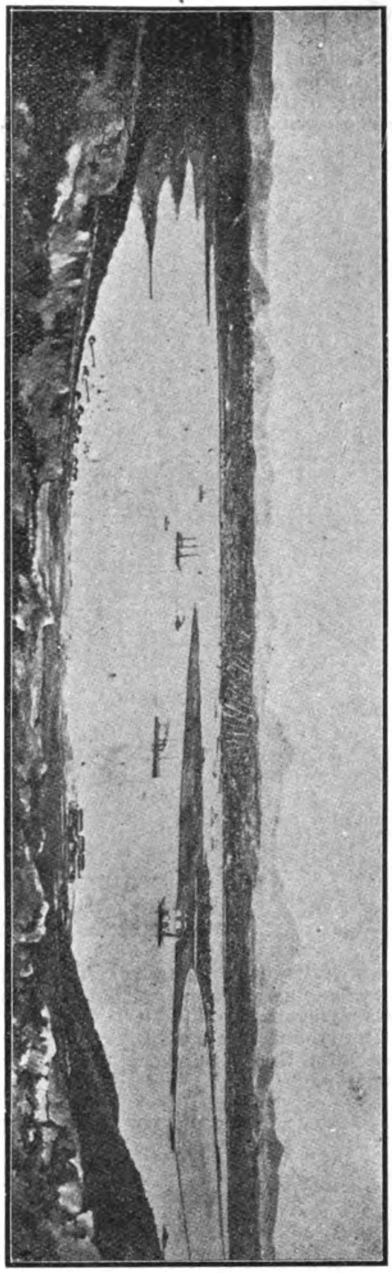
VIEW OF THE BANQUET HALL AT CHANG SU HO'S GARDEN, SHANGHAI, WHERE THE CHINESE CHAMBERS OF COMMERCE ENTERTAINED



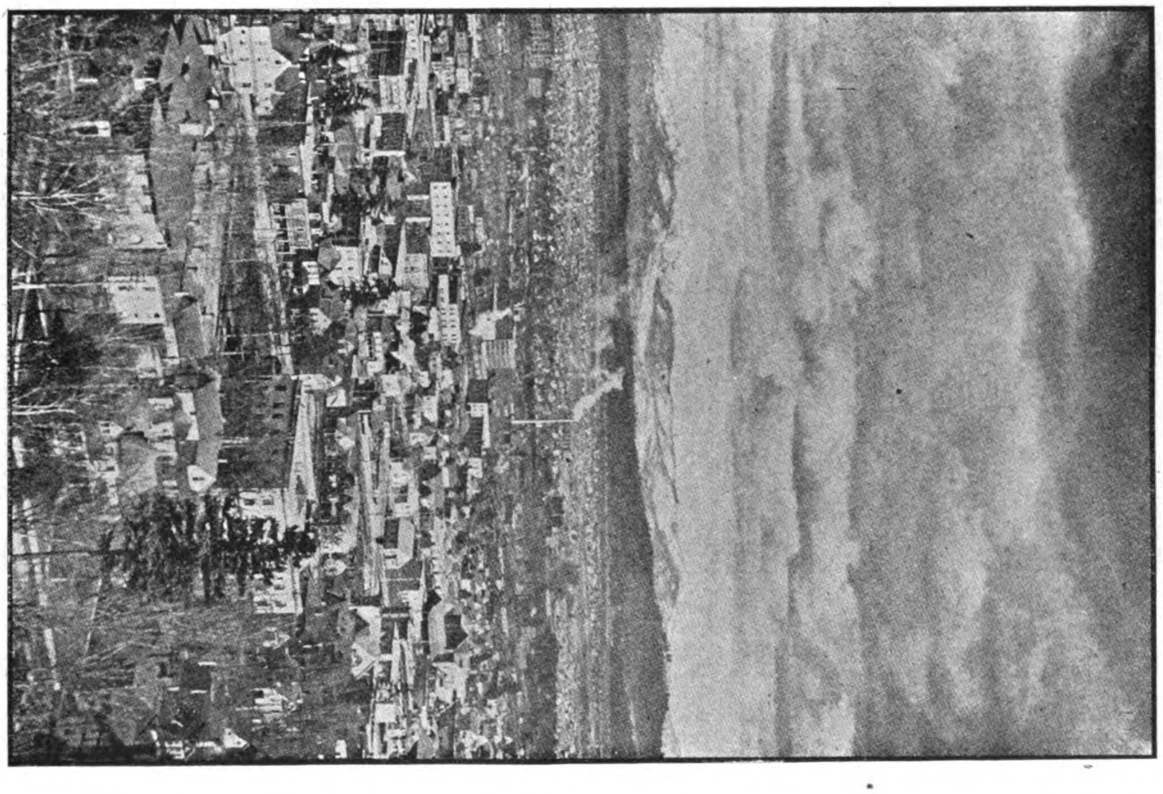
HONOLULU.



VIEW OF LOWER SPOKANE FALLS

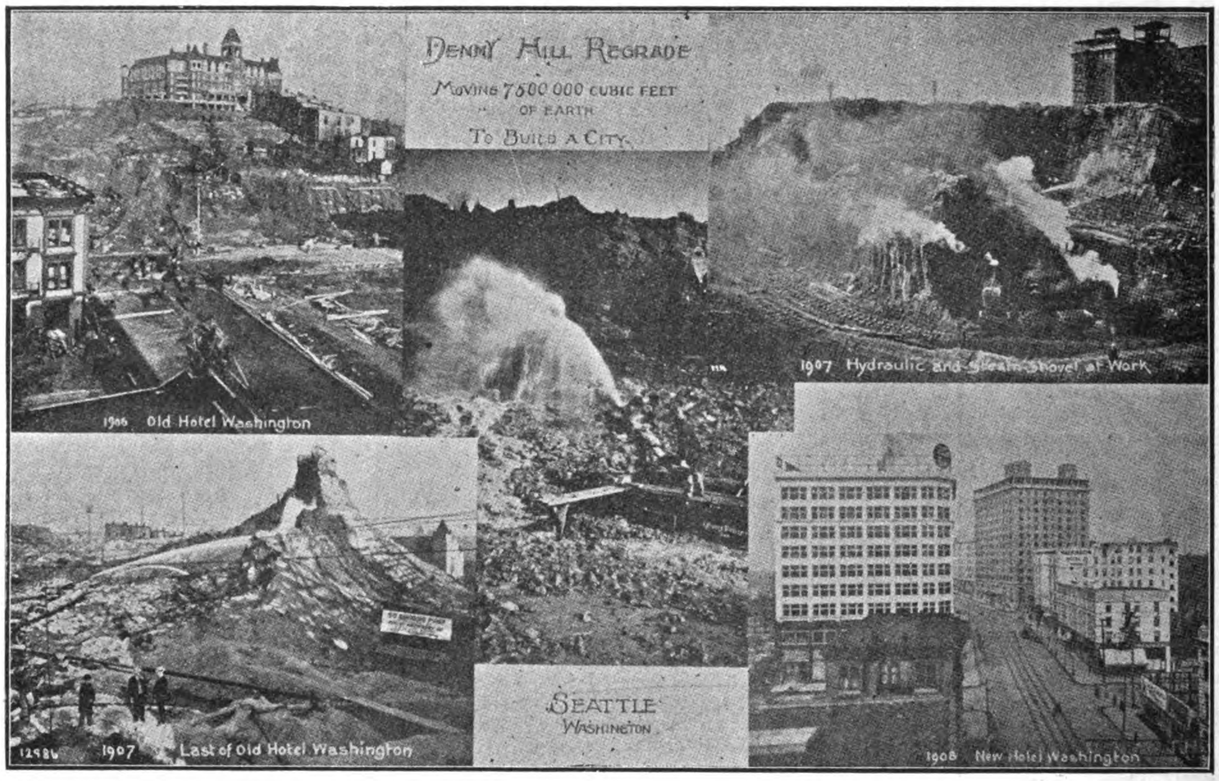


SAN DIEGO BAY

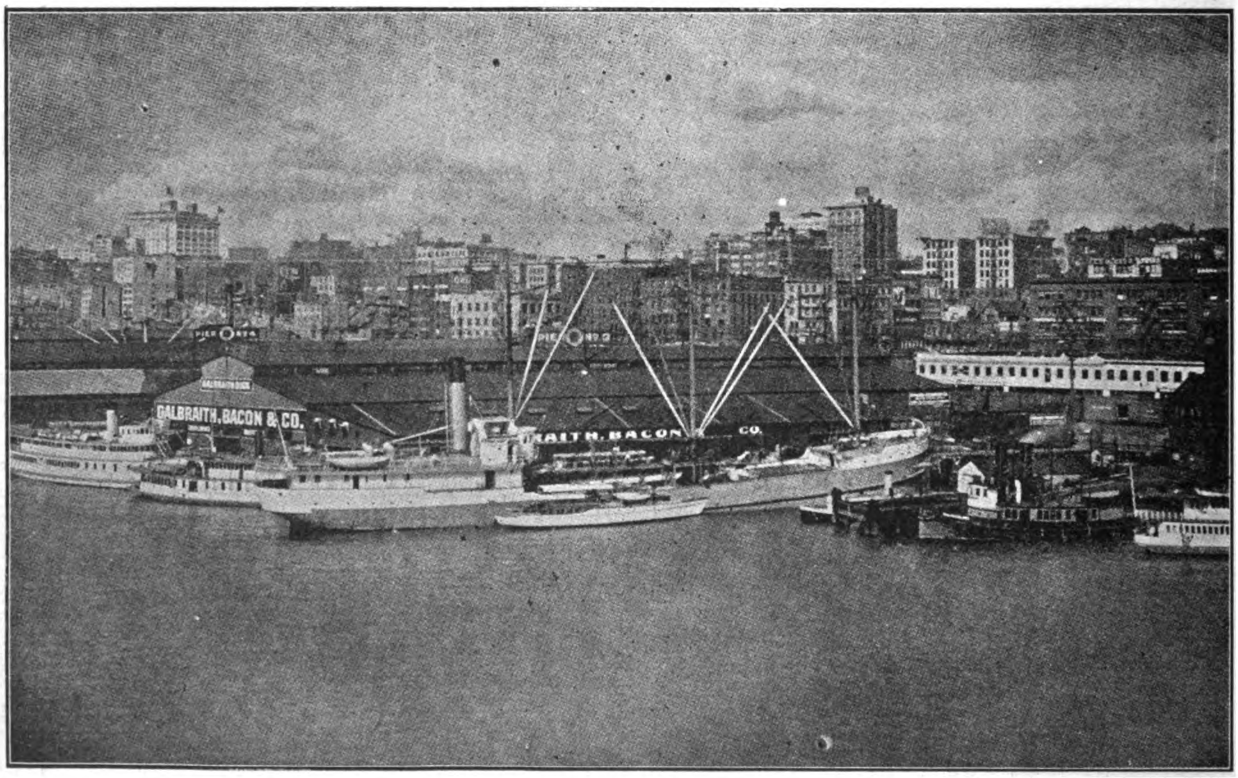


BIRDS' EYE VIEW OF SPOKANE, WASHINGTON.

matting, cotton, silk, tea, ginger, soy, etc., trades were discussed. The outcome among other features resulted in the conclusion that the Chinese and Americans failed to push the sale of their products by having their own representatives on the ground and that




more advertising was needed. The matter of Chinese exclusion came up, but reference to it was delegated to Mr. Robert Dollar who went into the matter thoroughly at a luncheon served after the conference and made a good impression.

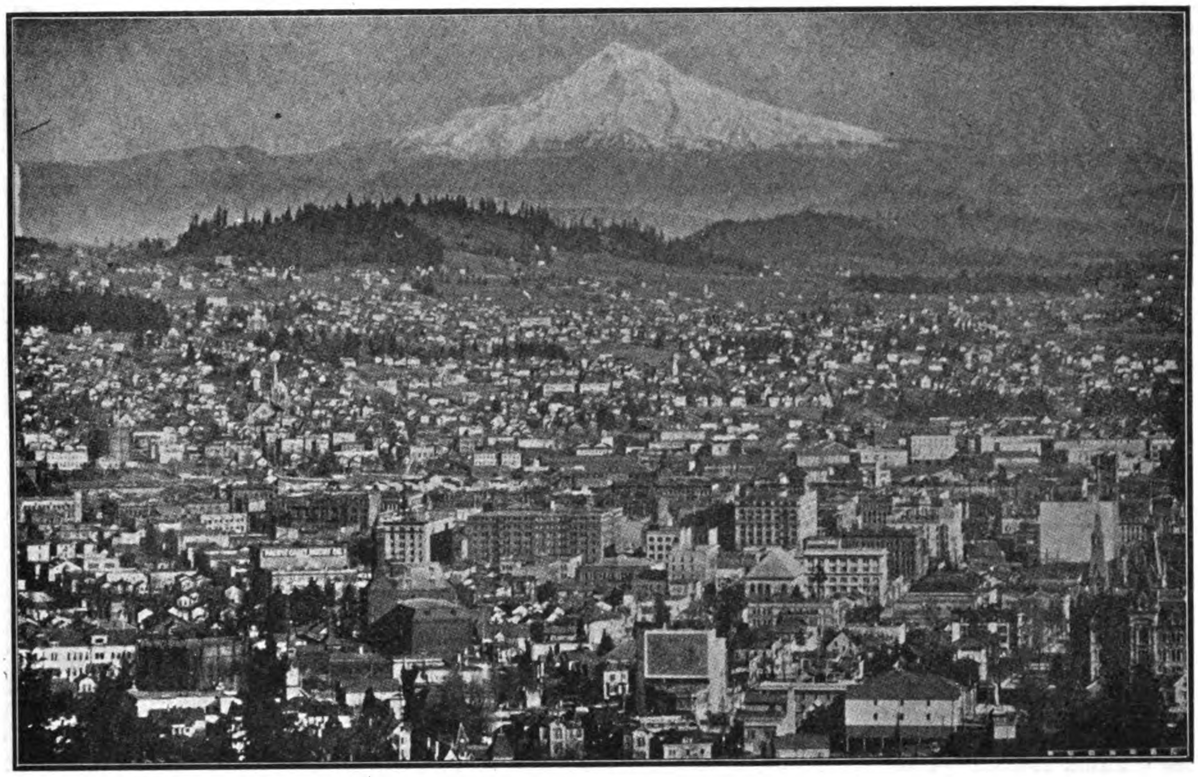



A VIEW OF WATER FRONT OF SEATTLE

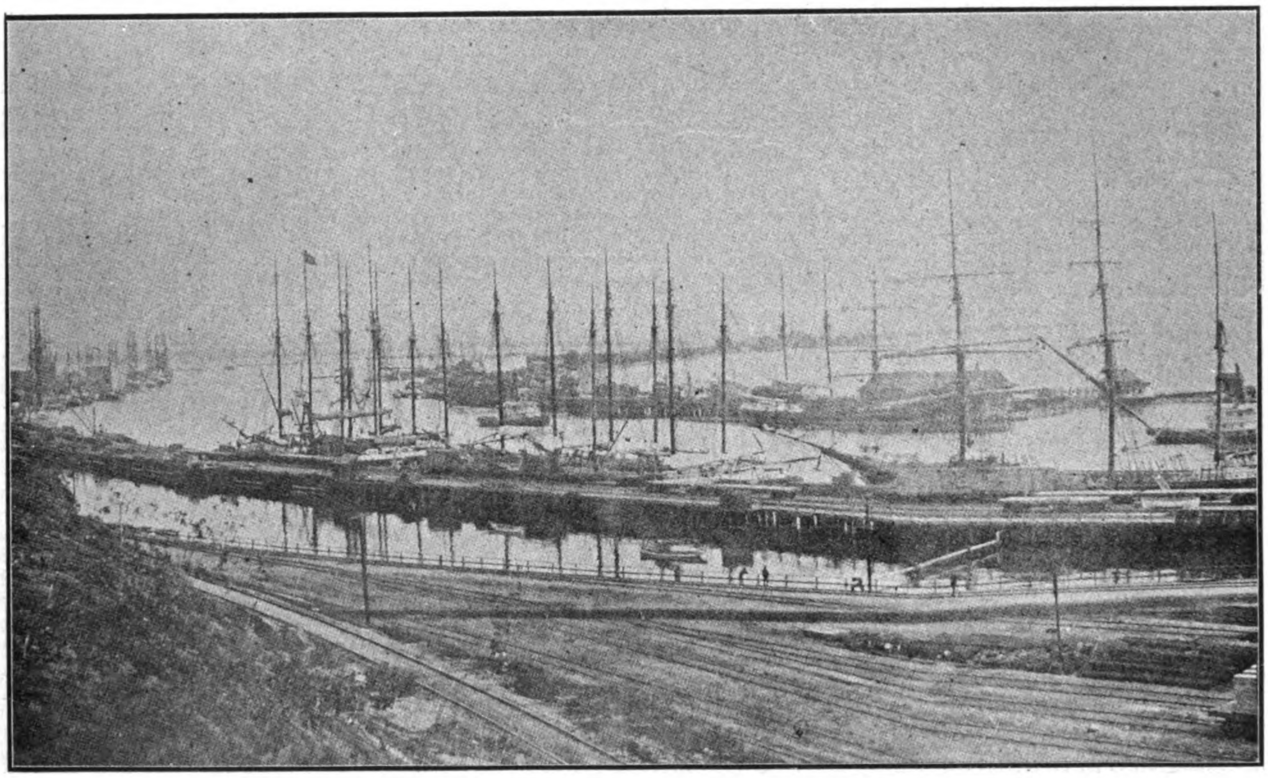
Mr. Dollar stated that he would not go into the merits of the treaty itself as a revision was under way and that might be left to the Chinese and American diplomats, but he would refer to the treatment of Chinese entitled to land at San Francisco. He stated that he had been selected as chairman of a committee of six chosen by the San Francisco Merchants Exchange and the Chamber of Commerce, that this committee had made a full investigation and he believed that he could not do better than read a copy of his report which had been forwarded to President Taft and follows:

"We interviewed the Chinese Chambers of Commerce, the Six Companies, Chinese daily newspapers, and Chinese merchants, and on the other side we had conferences with H. North, Commissioner of Immigration, and several of the immigration officials, and finally we spent a day meeting the Chiyo Maru and another steamer to see what reception the Chinese had, and followed them to the station at Angel Island, where we saw the passengers examined and, through the courtesy of the officials, we were shown through the entire buildings and plant, and were given every facility to see the treatment of the Chinese in every stage of the examinations, and the matter of their treatment before and after deportation, and after impartial consideration of both sides of the question, we find that cause for complaint exists to some extent, but on the whole this has been exaggerated. We found the examinations to be unreasonably severe, and to answer the questions asked correctly was an impossibility, and seeing that the applicants have to prove their own case (in criminal cases, the crim-

inal is considered innocent until he is proven guilty; here, he is considered guilty until he proves himself to be entitled to land) and evidence, if taken literally and compared with the witnesses, is sufficient to exclude every man, woman and child from landing. For instance, the eight or ten year old son of a merchant is asked his grandmother's maiden name, on both his father's and mother's side, the names of people living a block or two distant, their children's names, ages, etc. Then, the father, who has not been home for years, is asked to corroborate his son's statement, which is simply impossible. We find those attempting to land have great difficulty in getting witnesses to go to the station to testify. One young man, a son, had been waiting two weeks. The witnesses arrived when we were there, and he would have no trouble in landing. This refers only to those witnesses who live around the bay, but many arrive whose witnesses live in distant States. The papers have to be forwarded to the representatives of the bureau nearest where the witness lives, and in the event of change of residence or pressure of business of the official, it makes a very long and tedious wait. The system of examining the witness is so complicated that it looks to us that it is impossible for any person to enter who is not entitled to. The buildings, manner of caring for and feeding the immigrants, etc., are all that could be desired, and in justice to those in charge, we congratulate them on the conditions as we found them. We were informed that with those arriving in first class cabin, their examination commenced at Meigg's wharf and was completed as soon as possible, so that they had no delay in landing, and not one in a hundred was detained. The Chinese have furnished us with details of 45 cases, all during 1910. Some of them look bad for the officials, but as we only secured the Chinese version and not the inspector's, we do not think it fair



BIRDS' EYE VIEW OF PORTLAND, OREGON



PORT LOS ANGELES, SAN PEDRO HARBOR

to comment upon them, and for the sake of commercial good-will and justice, we think the government should investigate. If they desire it, we would give them the numbers of the cases, and in the meantime our consuls should be requested to allay the irritation in China, assuring merchants and students who are entitled to land that they will be allowed to land without any indignities being offered them, and that the departments see to it that their instructions are carried out, not in letter only, but in spirit. In the connivance of some of our officials, who would get a certain amount if they landed. It has become a notorious fact that merchants' wives have great trouble landing, while women of the other class have in too many cases no trouble in getting ashore. The Chinese can have no complaint of the exclusion of this class as our laws prohibit their importation from any country. On my visit to Angel Island I saw some white women amongst the Chinese who had also been ordered to be deported. In the case of bona-fide students, for some time, none have been refused admittance. Many are going from Shanghai and there has been no trouble. The Young Men's Christian Association there write to the Y. M. C. A. in San Francisco and a paid Chinese representative goes to meet them on the steamer and gives them all the assistance they may require. This information is not hearsay, as I have given it my personal attention. In conclusion, I earnestly ask you to stop the fraud at your end if there be any, and we request that you see to it that only those who are entitled to land shall be permitted to leave this country. The Japanese Government has attended to this in their case so that all trouble and friction has ceased. I assure you that we will do our best to stop the fraud at our end, and we will do our utmost to see that any Chinese who is entitled to land shall be landed without delay or any indignities being offered to them (applause)."

U. S. GRANT HOTEL, SAN DIEGO, CALIFORNIA

view of the fact that a large number of our most influential merchants leave this coast to visit China next month, we consider the foregoing important. We ask justice and a square deal for those who are entitled to land, the same treatment they give us in landing in China. We offer the following recommendations:—(1) That a more reasonable and rational method of questioning be adopted. (2) That all witnesses, white or Chinese, who live in San Francisco or neighboring towns, be examined in San Francisco, as a witness who has no particular interest in the person might go to San Francisco to testify, but would refuse to go to the island, especially as it often happens that the case would not be reached the first day the witness went, thereby necessitating two or more trips. (3) That examinations be expedited by sending for witnesses, as the party being locked up has not the means of getting them." I think that the Chinese should be examined in Canton or Shanghai by the Taotai and a proper American Government officer, whose certificate shall be final, and any person having that certificate should be allowed to land without further examination. I cannot, however, caution you too strongly to have your government officials see to it that no such fraud is perpetrated, as the fraudulent certificates issued some years ago by corrupt Chinese officials and certified to by mercenary American consuls who, along with their interpreters, suddenly got rich. This was the cause of all the trouble. On my visit to Angel Island, I saw several Chinese women that had been brought over by their owners for immoral purposes. They were caught and ordered to be deported. No doubt they were brought from China by

This was the most important speech made during the entire visit. It was freely interpreted to a large and interested audience and it is believed will do more to eliminate the only cause for friction in commercial relations between America and China than any other influence attending this visit:

The visit to China was concluded by a splendid reception at the Chinese Y. M. C. A., Hongkong, October 26.

SECRETARY OF WAR DICKINSON AT SHANGHAI

VISIT TO MANILA.—In response to a warm invitation from Manila a large number of the delegates proceeded there on the Nikko Maru, October 27, and on the Manchuria, Oct. 31, sailing again from Manila, November 7th, on the Manchuria. During this short visit trips were taken to Baguio, Taal, and many places of interest in and about Manila. The visitors were agreeably surprised at the cleanliness of the capital and the opportunities for trade and investment throughout the islands.

H. E. CHUNG MUN YEW, MANAGING DIRECTOR OF THE C. M. S. N. CO. AND OF THE SHANGHAI-NANKING RAILWAY, WHO WAS PROMINENT IN ENTERTAINING THE COMMISSION.

The following is a list with a short sketch of each, divided into groups representing the different chambers of the coast:

*The Chamber of Commerce of San Francisco.*—Mr. William Lewis Gerstle, president, the Chamber of Commerce of San Francisco; vice-president, the Associated Chambers of Commerce of the Pacific Coast; vice-president, San Francisco Convention League; president, Alaska Commercial Company; president, Appollo Consolidated Mining Company; vice-president, Yukon Express Company; secretary and treasurer, Northern Navigation Company; secretary, Fairbanks Telephone Company; director, Alaska Packers' Association; secretary, Fourth Street Company; director, Alaska Commercial Building; director, Market Street Company; director, Water Front Land Company, San Francisco, Cal.; director and Member, Finance Committee of Union Trust Company of San Francisco; director, Metropolitan Company, San Francisco.

Mr. Robert Dollar.—Born in Scotland 66 years ago and emigrated to America when 13 years old. Commenced to work in the lumber forests at the age of 14. At the age of 21 he had charge of a lumber-camp; at 30 was the manager of large lumber operations. At 35 he commenced lumbering in the State of Michigan on his own account. Twenty-two years ago he moved to San Francisco and engaged in lumbering and shipping; ten years ago he entered the Trans-Pacific trade with one steamer carrying lumber from America and picking up what freight could be gotten from China. At present three large steamers and one building and three chartered steamers are required to meet the requirements of the increasing trade; at present his Company have a 15-years contract to carry Iron Ore and Pig Iron from Hankow, China, to Irondale of Puget Sound, the maximum quantity on steamers are engaged in the American coastwise trade. The principal offices of the various companies he represents are in San Francisco; branch offices in Seattle, State of Washington, Shanghai, and Tientsin, China.

Mr. Richard M. Hotaling.—He entered the wholesale liquor business of his father and later became associated in the Hotaling Banking Co. of San Rafael, California, of which he is now president. He is vice-president of the Bay Counties Power Company, which first demonstrated the feasibility of long-distance transmission of electric power. He is the sole owner of the last big terminal facility for a transcontinental railroad on San Francisco Bay.

*Seattle Chamber of Commerce.*—Mr. Elbert F. Blaine is one of the most successful lawyers in the Pacific Northwest who served as one of the Honorary Commercial Commissioners to Japan in 1908, and chairman of the committee on arrangement for the entertainment of the Japanese Chamber of Commerce who visited the United States in 1909 and has done a great deal to bring about a better understanding between the countries on the Eastern and Western shores of the Pacific. He is a member of the Denny-Blaine Land Co. which has developed large tracts of rich fruit land in Eastern Washington.

TAOTAI SHEN TUN-HO, A MEMBER OF THE RECEPTION COMMITTEE AT SHANGHAI

Mr. William Pigott, of Seattle, is a director of the Seattle Steel Company, president of the Seattle Car Manufacturing Company, director of the Washington Trust Company, a trustee of the Alaska-Yukon-Pacific Exposition and a member of the School Board of Seattle.

Mr. Jacob Furth is one of the leading financiers of the Pacific Coast. He is chairman of the Board of Directors of the Seattle National Bank; president of the Seattle Electric Company, president of the California Land & Stock Company, director in a number of banks throughout the State of Washington, and is a trustee and former president of the Seattle Chamber of Commerce.

*Tacoma Chamber of Commerce and Board f Trade.*—Mr. William H. Dickson, Tacoma, president of the Washington State Association of County Commissioners, treasurer of the Washington State Historical Society, director on the Advisory Board of the Young Men's Christian Association, treasurer of the Tacoma Chamber of Commerce and Board of Trade, and ex-president of the Tacoma Boosters.

Mr. Charles H. Hyde is president and vice-president of the West Coast Grocery Company, vice-president of the Pacific National Bank, vice-president of the Tacoma Biscuit and Candy Company, trustee of the Tacoma Commercial Club, of the Union Club, of the Young Men's Christian Association, and a member of the Reception Committee of the Tacoma Chamber of Commerce.

Mr. L. R. Manning is head of the firm of Manning & Company, real estate and investment bankers; an active member of the Tacoma Chamber of Commerce and chairman of the committee on good roads; financial correspondent for the Northwestern Mutual Life Insurance Company; and president of the Tacoma Real Estate Exchange.

*Spokane Chamber of Commerce.*—Mr. C. Herbert Moore, ex-mayor of Spokane and president of the 1,500,000 Club, secretary and general manager of the Spokane Street Railway Company to 1891 when the street railway company sold their property to the Washington Water Power Company and Mr. Moore became interested in real estate.

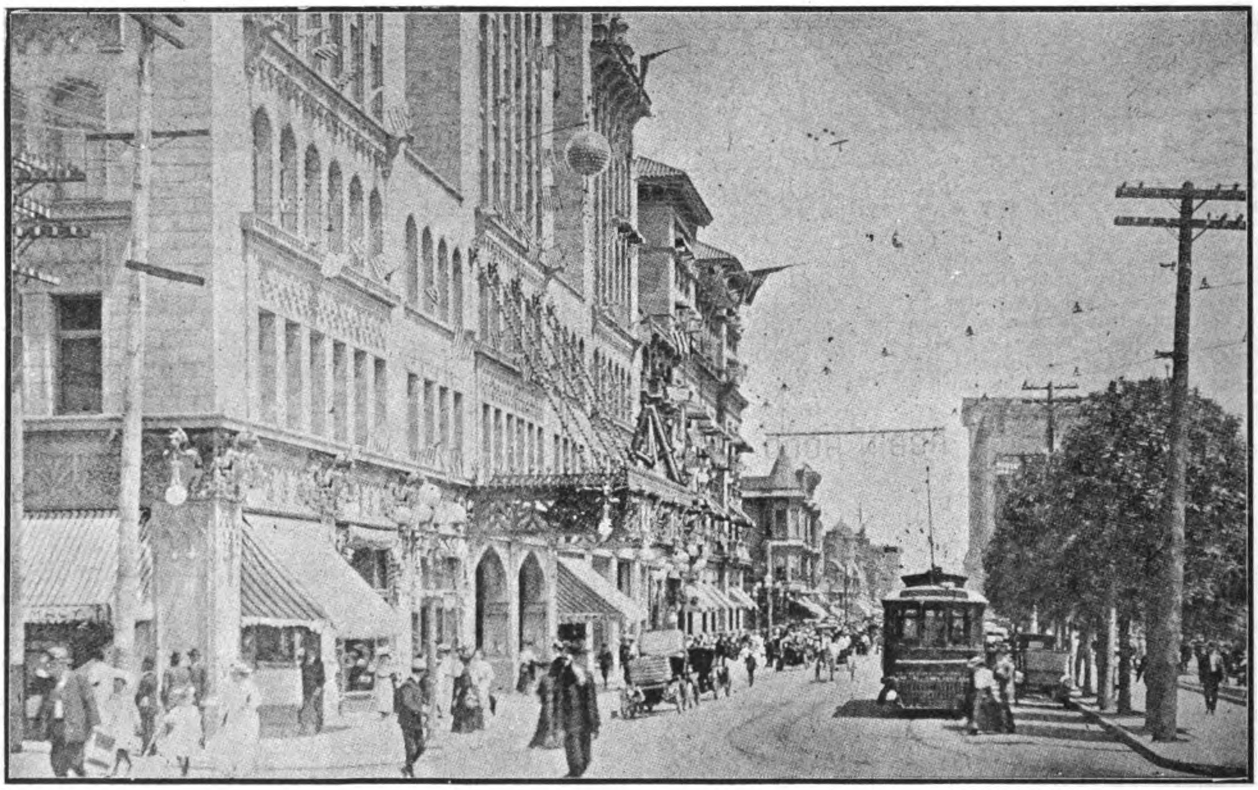
Mr. John Henry Shaw is president of the firm of Shaw and Borden Co., one of the largest stationery, book supply, printing and engraving houses of the Northwest.

Mr. Samuel R. Stern is a well known lawyer and legal representative of the Harriman railroad interests in Eastern Washington, was elected president of the Washington State Bar Association in 1900 and is a contributor to legal publications and leading literary magazines and newspapers.

*The Portland Chamber of Commerce.*—Mr. Carl Julius Butsch was born at Stuttgart in March 1880, educated at the German College there, and after a short educational and business experience in Hamburg, went to the far East, where he remained for five years with an exporting and importing house at Hongkong, Shanghai, Kobe and Yokohama. He then joined the China Import & Export Lumber Co, Ltd., and served in various capacities at Shanghai, a branch of their business on the Pacific Coast, with headquarters at Portland and Tacoma. He held that position until the 1st of July, 1910, when he entered the employ of the Pacific Export Lumber Co. of Portland, as their representative on the Asiatic Coast.

Mr. M. O. Clark is president of the Clark-Wilson Lumber Co., of Portland, Ore., president of the Columbia Timber Co., and of the Goble-Nehalem & Pacific Railway. He is Vice-President of the Oregon Surety & Casualty Co., and an active member and supporter of the Portland Chamber of Commerce and the Portland Commercial Club.

H. E. NA TUNG,
GRAND COUNCILLOR WHO ENTERTAINED THE COMMISSION AT PEKING



AUDITORIUM BUILDING AND STREET SCENE

# THE SUGAR INDUSTRY OF THE ISLAND OF NEGROS

The Bureau of Science, Philippine Islands, has issued a valuable brochure presenting a thorough review of the sugar industry in the Island of Negros, by Mr. Herbert S. Walker, of the chemical laboratory, who made a personal investigation covering two seasons. In this work Mr. Walker carried with him a portable chemical laboratory and hand mill and established laboratories on each of the haciendas in the island. He was thus in a position to obtain information on the ground. The soil analyses and other work beyond the capacity of his portable equipment were done at the central laboratory, Manila, by Messrs. L. A. Salinger and R. R. Williams of the division of chemistry and Mr. Wallace E. Pratt of the division of mines.

In his introduction Dr. Paul C. Freer, Director of the Bureau, states that the necessity of "an extended and thorough study of the sugar cane produced in the Philippines, the nature of the soils disclosed by chemical and physical examination, the area planted and the area available for sugar production," together with a study of the "existing methods of isolating the sugar and shipping it to the market in order to determine the benefits which might accrue from improved methods of grinding and evaporating," was early realized, but so extensive an undertaking was not practicable. Finally it was decided to concentrate effort in that direction on the Island of Negros, that region being the greatest producer for any given area in the islands.

The result is highly satisfactory, but the Director is anxious that a further investigation be made covering a study of desirable fertilizers on the spot and the introduction of other varieties of cane as substitutes in case of accident to the present types grown. He realizes, however, that in order to cover this ground the "chemical laboratory must give way to the experimental station."

The bulletin is illustrated with maps and views covering the practical side of the industry and an appendix covering "An Investigation to Discover if Diseases of the Sugar Cane Exist in Negros" by Elmer D. Merril, Botanist, and Chas. S. Banks, Entomologist, of the Bureau of Science, is included.

The result of Mr. Walker's work is a comprehensive presentation of the present status of the industry in Negros and suggestions based on conclusive data that will serve to guide the hacendero and the pioneer sugar farmer along lines that will best serve them in securing the maximum return for effort.

He first made an exhaustive enquiry into the prevailing conditions of agricultural practice in cane growing and sugar making during the milling seasons of 1908-09. During the season 1907-08 Negros produced 73,498 metric tons out of total Philippine production of 180,000 tons and in 1893, the largest crop in the sugar producing history of the

---

*The Oakland Chamber of Commerce.*—Mr. William H. Weilbye is a well known contractor, lumber dealer and contractor of Oakland, director of the Merchants' Exchange and director and vice-president of the Oakland, Chamber of Commerce.

Mr. A. E. Young is a prominent wholesale dealer and president of the Merchants' Exchange of Oakland.

*Los Angeles Chamber of Commerce.*—Mr. Willis Holyoke Booth is president, Associated Chambers of Commerce of the Pacific Coast; ex-president, Los Angeles Chamber of Commerce; vice-president, Equitable Savings Bank; secretary, Smith Booth-Usher Company (machinery merchants); secretary and general manager, Pacific Electric Heating Company (manufacturers electric heating appliances); treasurer and manager, Booth Investment Company (dealers in stocks and bonds.)

Mr. E. P. Bosbyshell is president of E. P. Bosbyshell Co., vice president United Wholesale Grocery Co., director Merchants' National Bank of Los Angeles, director and acting secretary of the Hall Construction Co. and director in the Los Angeles Chamber of Comerce.

Mr. E. S. Moulton is president First National Bank, Riverside; president Chamber of Commerce, Los Angeles; member of Board of Education; director of Stearns Lumber Co., Mendocino Co., Cal.; director Citrus Protective League of California; and director Riverside Savings Bank & Trust Co., Riverside.

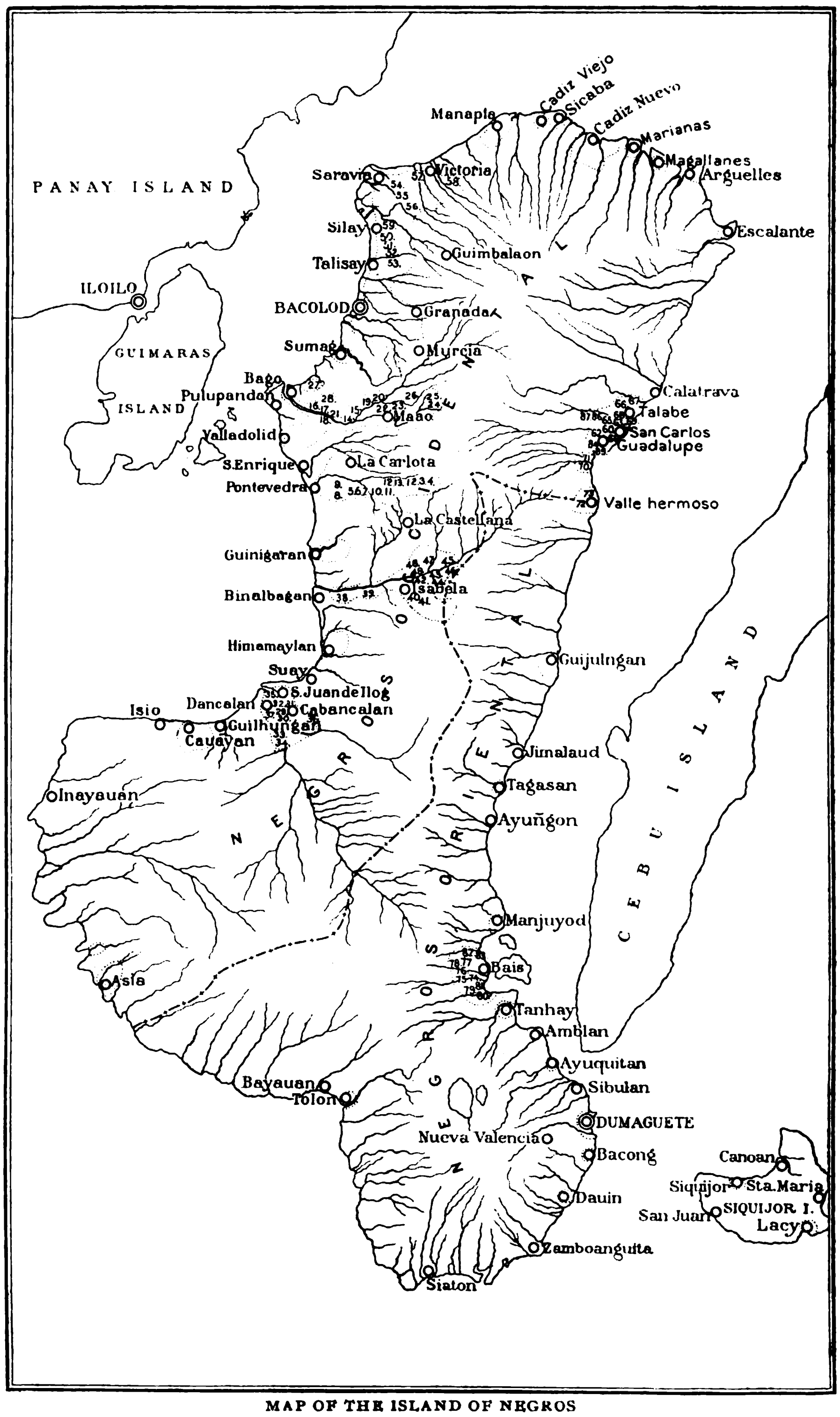
*Chamber of Commerce of San Diego County.*—Mr. George Burnham is president of the Chamber of Commerce of San Diego County, and president of the firm of George Burnham & Co., incorporated.

Mr. William Franklin Knight is member of the Denver Real Estate and Stock Exchange; director, Interstate Dock & Lumber Co; ex-vice-president Pasadena Board of Trade, and member of the Board of Education of Pasadena.

*Honolulu Chamber of Commerce.*—Mr. Edward C. Brown is foreign manager of the Dearborn Drug & Chemical Works and is prominently associated with various commercial organizations, being a member of both the Merchants' Association and the Honolulu Chamber of Commerce and served as president of the Honolulu Commercial Club.

Mr. Fred L. Waldron is engaged in shipping and wholesale commission and has been president for two years past Honolulu Merchants' Association.

Mr. Charles K. Field was born in Vermont and graduated from Stanford University, California. He is associate editor of the Sunset Magazine, at San Francisco, California, and joined the party as American press representative.




MAP OF THE ISLAND OF NEGROS

islands, Negros provided 115,000 out of total 300,000 metric tons. And for the purpose of investigating soil conditions Negros provides them of "every degree of fertility from virgin forest lands and rich alluvial deposits to worn-out fields which have been cultivated for upwards of fifty years without fertilizing."

*Natural Features.*—The author places the area of Negros from 9,000 to 12,500 square kilometers, the greater part occupied by mountainous or hilly forest lands practically uncultivated. Three rivers, the Bago, Binalbagan and the Ilog, penetrate the important sugar districts and are accessible to flat bottomed sugar lorchas for from five to ten kilometers. The lack of large rivers and harbors in the island has made Iloilo the sugar port for Negros.

*Climate.*—The rainfall is variable. The reports of the meteorological station at La Carlota between 1889 and 1897 are taken as a basis of deduction and the average rainfall is placed 597 mm. in January; 556, February; 474, March; 870, April; 229, May; 304.8 June; 358.7, July; 378.6, August; 392.9, September; 350.9, October; 199.0, November; 127.3, December. The maximum temperature recorded at this station deduced from 1889-1898 runs very evenly the year round the month of September, 1891, showing the lowest at 33.5° C. and April 1891 the highest at 36.4° C. The monthly minimum ranged between 17.0°

PLOWING A FIELD BEFORE PLANTING

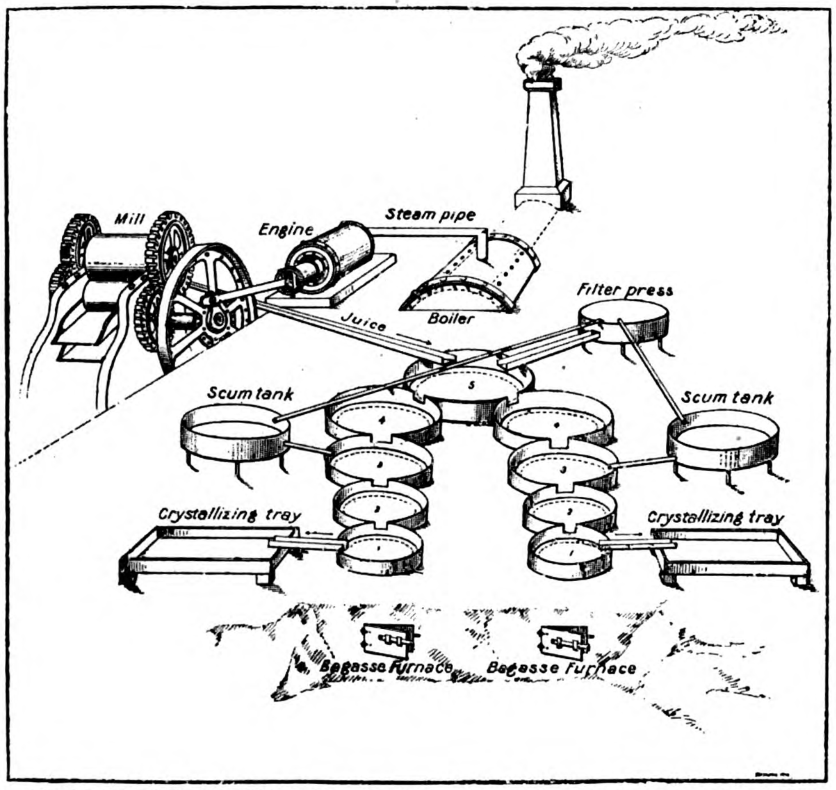



DIAGRAM OF THE CUSTOMARY ARRANGEMENT OF A NEGROS SUGAR HOUSE

C. in December 1892 to 20.8° C. in May, 1894. The highest monthly average of temperature covering the same period was 27.6° C. in April and May, and the lowest 25.6° C. in January.

At Bacolod for 1903-1908 the average rainfall by months show July to lead with 345.5 mm. and March with 153, the lowest. The average monthly temperature at this station gives May with 284° C., the highest, and January, February and August the lowest at 26.0° C.

A review of both stations indicates that the heavy rainfalls begin in May and continue during the balance of the year, the Bacolod district having more rain in January than the San Carlota.

*The Sugar Belt.*—Mr. Walker describes the sugar belt as extending from the town of Victorias in the North to Ilog River in the South, a distance along the west coast of approximately 130 kilometers with a width from the mountains to the sea of from five to thirty kilometers. Within this area there is much land not adapted for sugar growing, and for the purpose of his work, he divided the area into five districts, each of which produces more than 5,000 metric tons of sugar, and comprise the municipalities named as follows:

(1) Victorias, Saravia, Silay and Talisay. (2) Bago. (3) Pontevedra and La Carlota. (4) Binalbagan and Isabela. (5) Ilog and Cabancalan.

So much for the west coast. On the East there are two districts known as the San Carlos to the North and Bais in the South producing 5,000 tons each. Outside these seven large districts there are several municipalities that produce from 1,000 to 3,000 tons per annum, but they are isolated and, until better transportation facilities are provided, must be considered comparatively unimportant.

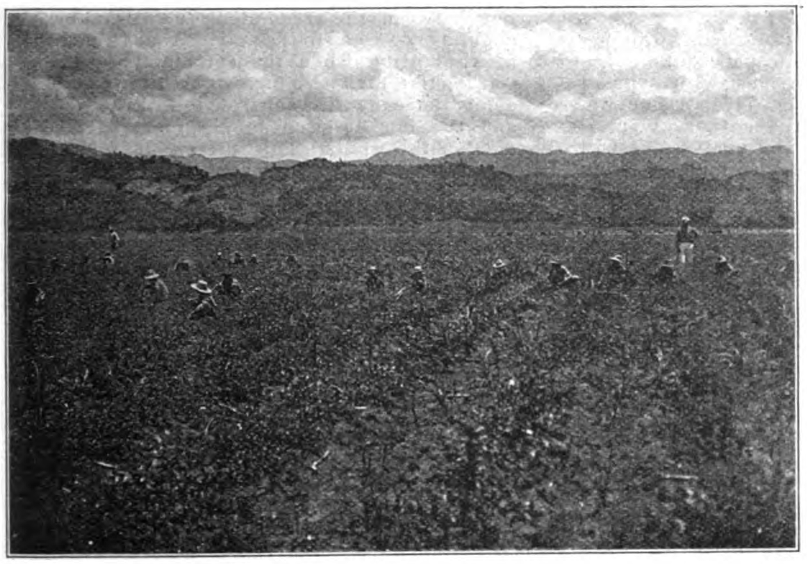
*Sugar Statistics.*—The Bureau of Internal Revenue provided a carefully prepared table on the extent of the industry for the year 1908 from which figures the author makes the following resume:

"Thus, in the whole island there was a total of 484 planters, who controlled in all 65,641 hectares of land adapted to sugar culture, of which 27,096 hectares were actually under cultivation and 38,545 for various reasons left unplanted. In addition there were 16,904 hectares of sugar land left unoccupied principally because of the lack of transportation facilities. During the year there were produced a total of 1,161,446 piculs or 73,462 metric tons sugar. Each planter, then, possessed on an average 135.6 hectares of cultivable sugar land, but planted only 56 hectares of it, allowing the remaining 79.6 hectares to lie idle. He produced from the 56 hectares planted 2,400 piculs, or 151.8 metric tons of sugar. Out of a total of 82,545 hectares of land certified to as being well adapted to the culture of the sugar cane 32 8 per cent was actually being cultivated, 46.7 per cent was owned by sugar growers but not planted, and 20.5 per cent was unoccupied, or at least unused because of lack of transportation facilities, animals, or capital. In considering these figures it should be borne in mind that they refer not to the total area of land comprised by the various municipalities, but to that portion of it, generally a small per cent, which is well known and certified to as being fit for cane growing.

"Dividing the total production of sugar by the number of hectares planted, we find that the average yield per hectare throughout Negros is 42 9 piculs, or 2.71 metric tons. This question of the average yield has long been a much-disputed point and one which it has been impossible hitherto to state with accuracy. Depending upon the locality which is visited, it is possible to form estimates which may vary several hundred per cent from the truth, in either direction. I have seen cane fields so sparsely sown and of such poor quality as to produce not more than 10 to 15 piculs (0.63 to 0.95 metric tons) to the hectare, while on the other hand there are well-authenticated cases in the richer districts where fields of several hectares in extent have averaged as high as 200 piculs, or 12.6

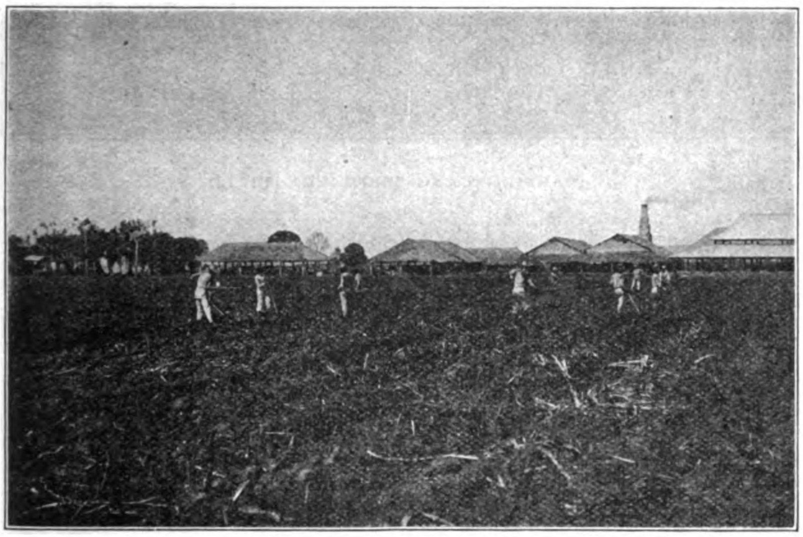
metric tons, to the hectare. The average yield for the island is greatly reduced by the comparatively large number of small growers who lack either the resources or the ability properly to care for their cane. I may state from personal observation that on a well-managed plantation—and there are a few such in Negros—the yield per hectare under normal conditions of land actually planted in cane will rarely fall below 60 piculs (3.8 metric tons), and frequently comes nearer 70 piculs (4.4 metric tons); this should hold true in the poorer as well as the richer sections, as the difference in quality of soil is in a measure made up for by the fact that cane grown in the former is as a rule richer in sucrose and is replanted every year on fresh soil, whereas in the latter it is allowed to ratoon until the yield becomes greatly diminished."

*Labor Troubles*—The difficulty in securing reliable labor during the milling season is

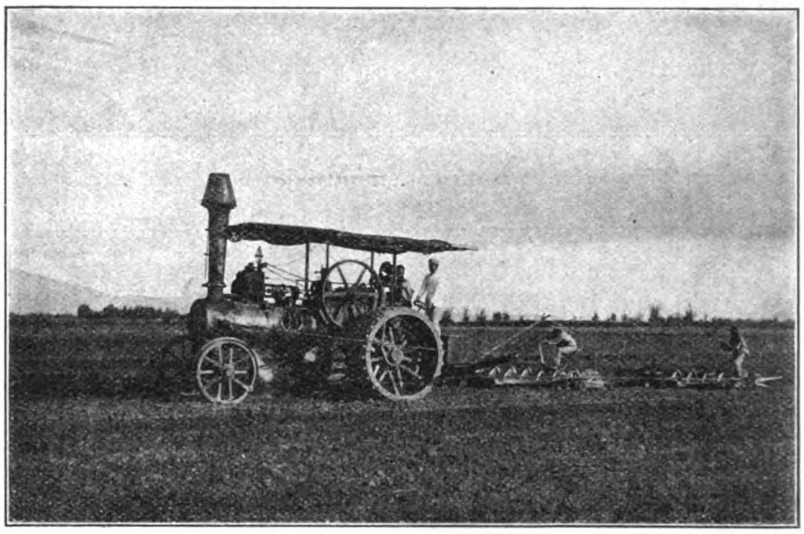


BOYS CLEARING OUT THE WEEDS

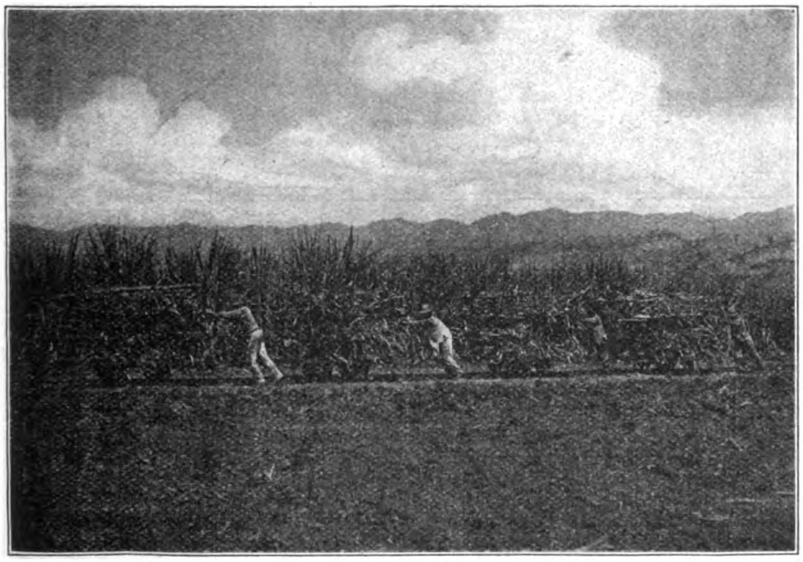
PLOWING BETWEEN THE ROWS



TAKING AWAY THE DIRT FROM AROUND THE ROOTS OF YOUNG RATOONS



STEAM PLOWING ENGINE DRAWING TWO DISC PLOWS



TRANSPORTING CANE IN A MAN-POWER TRAMWAY

CUTTING SEED, OR "PUNTOS," FROM CANE TOPS

the greatest obstacle in the way of the owner of small plantations which are the rule in Negros. The planter owns a small mill and he cannot afford to maintain a double force all the year round to have on hand for a few months. During this season labor is imported from Panay and Cebu through contractors. The average wage is 25 centavos with rations. The absence of a remedy for violation of contract works a hardship upon employers. There is no process for compelling a native to work and many instances occur where written agreements confirmed by substantial advances to contractors have been ignored. Echoes of the unreliability of labor in Spanish times indicate that American influence is not wholly responsible for present troubles. Echauz, liberally quoted on this subject, concludes:

"There is urgent need of a speedy and efficacious remedy for an evil which, if allowed to spread, may ruin the work of many years. Regulations should be made regarding hours of work, wages which must be paid, rations, voyages, time of stay in each hacienda, but, at the same time, let some guaranty be given to capital, some security to the planter."

The need of just such legislation as Echauz proposed is now receiving some attention at the hands of the government.

*Soil Analysis*—Mr. Walker devotes many pages to Soil Analysis covering in all special investigations in over 85 haciendas in the different districts so that the results are practically conclusive. Complete tables covering each district, and a general average is included together with comparative tables with other countries.

The average composition of surface soils in Negros follows:

"Surface soil: Fine earth, 97.39 per cent; potash, 0.20 per cent; soda, 0.18 per cent; lime, 1.66 per cent; magnesia, 0.98 per cent; phosphoric acid, 0.15 per cent; nitrogen, 0.14 per cent; "volatile matter," 9.31 per cent.

"Subsoil: Fine earth, 96.10 per cent; potash, 0.17 per cent; soda, 0.17 per cent; lime, 1.79 per cent; magnesia, 0.99 per cent; phosphoric acid, 0.12 per cent; nitrogen, 0.10 per cent; volatile matter, 9.19 per cent.

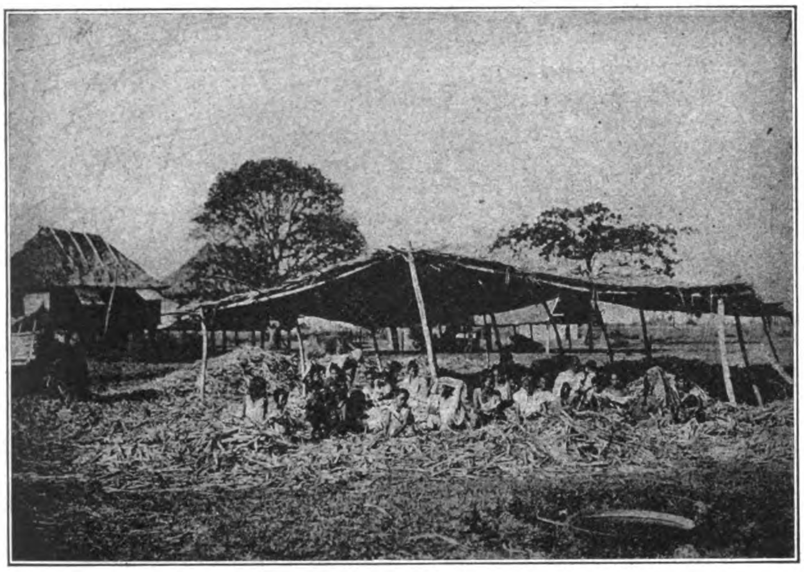
Concluding his comparisons with soils of Hawaii, Egypt, Louisiana, Java, Demerara, Berbice and Mauritius, the author says:

"Comparing all these soil analyses, it will be seen that although not preeminently rich in most constituents, the soil of Negros may rightfully be classed as among the better of the sugar lands of the world, and, given the proper care in cultivation, should be able to yield eventually as much sugar in proportion to the area of ground planted as any other country depending for its supply of water on its natural rainfall. Practical experience in cane culture tends to establish the fact that production depends more upon careful and intelligent cultivation than upon any inherent richness in plant food possessed by the soil itself, granted, of course, as a starting point a land not utterly deficient in these necessary elements of nutrition. An example of the truth of this statement is the relative productivity of different parts of the Hawaiian Islands. In comparing different sugar-producing countries, Hawaii is almost invariably placed in the lead without a rival, because of 'the enormous fertility of her soil,' both fertility and average yield being often grossly exaggerated."

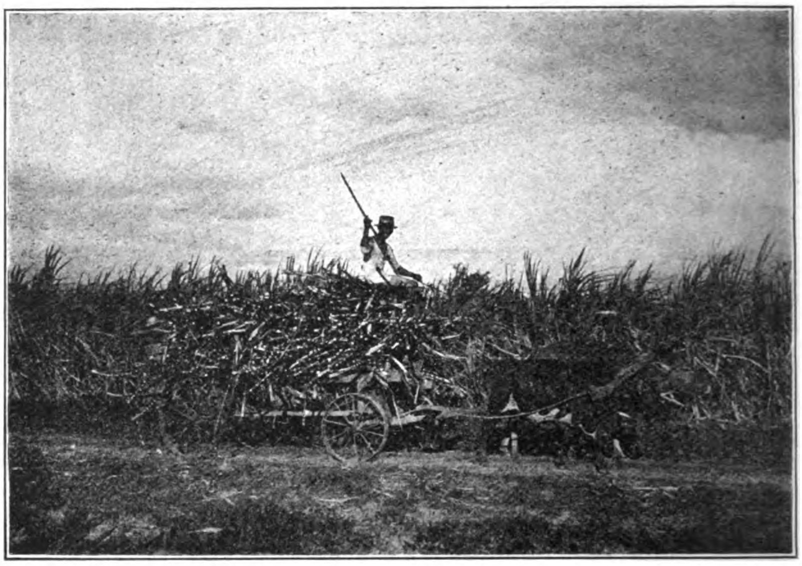
*Cultivation of the Cane*—The native wooden plow drawn by the carabao prevails in cultivating the ground although the American plow is slowly coming into use. When the seed is ready they are planted in rows running a meter apart and about 40 centimeters between the seeds along the row making about 25,000 seeds to the acre. About a month after planting when the sprouts are 30 to 40 centimeters high two furrows are plowed close along the cane in each row to kill the weeds and the hoe is used to clean out the balance of the weeds. This process is repeated until the rains begin when three furrows are plowed between each row throwing the dirt up around the roots of the cane and making a shallow trench between the rows. Later four furrows are plowed and the dirt is packed higher around the cane and the trench made relatively deeper.

A large proportion of the cane land in Negros is not replanted every year but allowed to ratoon and, according to Mr. Walker, two to eight crops are taken off without replanting and "theoretically cane planted in some of these alluvial soils, which are flooded and fertilized each year by silt brought down from the mountains by the overflow of a river, might go in ratooning forever. Practically, the period between plantings is limited strictly to financial considerations."

*(Continued to page 210.)*



WOMEN AND CHILDREN HUSKING PUNTAS



HAULING CANE FROM THE FIELD

LOADING CANE ON WAGONS

SUGAR MILL IN ACTION

# THE FAR EASTERN REVIEW

**GEO. BRONSON REA, M. E.**

**PUBLISHER**

**WILLIAM CROZIER, Editor.**

**COMMERCE :-: ENGINEERING :-: FINANCE**

**A Monthly Review of Far Eastern Trade, Finance and Engineering, Dedicated to the Industrial Development and Advancement of Trade in the Philippines and Far Eastern Countries**

**PUBLICATION OFFICE:**

**MANILA, PHILIPPINE ISLANDS**

**CHINA OFFICE**

**WHITEAWAY LAIDLAW BUILDING**

**Shanghai**

**UNITED STATES REPRESENTATIVES:**

**J. ROLAND KAY CO.**

**Teutonic Building, Chicago, Ill.**

**GREAT BRITAIN:**

**PROBSTHAIN & CO.**

**14 Bury Street British Museum, London, W. C.**

**SUBSCRIPTION AGENTS:**

| | |
|---|---|
| HONGKONG............... | KELLY & WALSH, LTD. |
| SINGAPORE............... | " " " " |
| YOKOHAMA............... | " " " " |
| SHANGHAI............... | " " " " |
| TIENTSIN............... | TIENTSIN PRESS, LTD. |
| WASHINGTON, D. C..... | BRENTANO'S. |

**SUBSCRIPTION RATES: Philippines, United States, Canada, and Mexico, $2.50 U. S. C. per year. To all other countries in the Postal Union, $3.00 per year. Single copies 25 cents, U. S. C.**

**ADVERTISING RATES will be mailed on application.**

**Communications pertaining to the Editorial Department should be addressed to THE EDITOR.**

ENTERED AT POST OFFICE, MANILA, P. I., AS SECOND CLASS MATTER.

**MANILA, SHANGHAI, AND YOKOHAMA, NOVEMBER, 1910**


CONTENTS


| | Page |
|---|---|
| Visit of the Honorary American Commissioners to China | 191 |
| Sugar Industry of Negros | 203 |
| Chinese Financial Situation | 207 |
| Benefits of the Visit of the American Commissioners to China | 208 |
| Passing of the King of Siam | 208 |
| China's Ancient Commerce with the Americas | 208 |
| Shanghai and Her Rubber Problem | 208 |
| Democracy's Triumph at Peking | 209 |
| Contracting News | 212 |
| Philippine Mining News | 213 |
| Far Eastern Railway News | 214 |
| Far Eastern Engineering, Construction, Commercial and Financial News | 215 |
| Far Eastern Share Quotations | 218 |
| Index to Advertisers | 224 |


## THE CHINESE FINANCIAL SITUATION

The storm center of the financial situation continues to remain in the vicinity of Shanghai although the barometer rose materially towards the latter part of October when the announcement was made by H. E. Liu In Yik, the new Taotai of Shanghai, that the Ta Ching Bank had been directed to advance Tls. 1,000,000 to relieve the situation and Viceroy Chang Jen Tsun of the Liangkiang provinces announced that he had received permission from the Throne to authorize the Chamber of Commerce to arrange a loan of Tls. 2,000,000 with the Hongkong & Shanghai Banking Corporation. Besides these sources of relief it was reported that the Yuchuanpu had arranged for a loan of Tls. 1,200,000 from the Yokohama Specie Bank to be made available through the Bank of Communication at Shanghai. The result of these activities gave temporary relief and confidence was restored somewhat by the news that the recommendation of Viceroy Chang that a foreign loan of Tls 5,000,000 be arranged would be favorably considered by the Ministry of Finance. On October 27, a report from Peking was to the effect that a loan of Tls. 3,000,000 had been authorized. Since then the news that a loan of $50,000,000 had been arranged in New York and another later report that an international loan for a similar amount had been authorized, (probably the same loan), the proceeds to be used in straightening out China's finances, is encouraging, and promises an adjustment before the New Year settlement.

The acute situation of last month was precipitated by the sudden dismissal of the Taotai and an order directing the native banks to pay back the official funds deposited with them to the Taotai's order.

On October 9th the foreign banks refused to honor bills of exchange issued by 21 native banks and the Yuanfeng Jun Bank suspended payment. Its Peking branch and fifteen agencies followed suit. The effect of these suspensions was felt in Nanking and Hanchow. The strain on the native banks and commercial houses was most severe. In some quarters the statement was made that if the dismissal of the Taotai had been delayed, the crisis might have been averted but few are disposed to endorse this opinion. With the interest shown by the Peking and local authorities, and the movement for better banking regulations which has been inaugurated, the ultimate outcome is expected to place the finances of Shanghai on a more substantial basis and minimize the danger from future speculative craze.

The new Taotai issued a proclamation shortly after his arrival in which he directed attention to the laws prohibiting the buying for selling forward. Reviewing the history of the rubber bubble in which these laws were violated by the large contracts for rubber stock entered into for speculation based on the fluctuations of the market, followed by disaster on settlement day and the endangering of the finances of the settlement, he warned the public that any one indulging in this abnormal practice would be severely dealt with. He also called upon the officials of the Mixed Court, the City Magistrate, and the Chamber of Commerce to use every endeavor to enforce respect for these regulations.

The reform of the native banks was then taken up by the Viceroy and the Taotai and the following list of regulations was referred to the Chamber of Commerce and the Bankers' Guild for their consideration:

1.—That the Shanghai Taotai, the Chamber of Commerce and the Bankers' Guild be ordered to investigate the capital of the various banks and the property of their proprietors; those which are found to be substantial to be assisted. Those which are insolvent to be liquidated and those which falsely declare themselves to be insolvent to be severely dealt with.

2.—The managers of the banks shall not carry on other business or use the capital of their banks for such a purpose.

3.—The proprietors of the banks shall report to the Shanghai Taotai the guarantors of their managers.

4.—That the banks must have a certain capital before they are allowed to do business and their operations are to be limited in proportion to their capital. The amounts of the capital of the banks are to be recorded in the Taotai's yamen and published for general information.

5.—The proprietors of the banks must also report to the authorities what property they have.

6.—Branches of a bank shall not be called by other names but may have so and so 'Kee' added to the name of the head office for the purpose of distinction.

7.—Gambling in exchange and shares is prohibited by law and any one found guilty of it shall be severely dealt with.

8.—That the duties of the managers of the banks shall be fixed and the punishments for their offenses shall be decided.

9.—Before a new bank can be registered and allowed to carry on business the Chamber of Commerce and the Bankers' Guild shall appoint a substantial existing bank to borrow from it a sum of money in proportion to its capital.

10.—Exchange of orders shall be prohibited.

11.—Bankers shall mutually assist one another.

12.—In view of the extensive dealings between the banks and the factories and their inter-dependence, the Shanghai Taotai shall in conjunction with the Chamber of Commerce and the representatives of the Guilds inquire into the capital of the industrial concerns, the property of their proprietors and the number of their employees. If they borrow money out of proportion to their capital or to carry other business the proprietors shall be punished.

The Committee of the Bankers' Guild to which the regulations were referred submitted the following report and recommendation:

"When we received your communication we at once realized that His Excellency the Viceroy was sparing no efforts to rid the banking system of its evils and we immediately convened a meeting of our members to consider the proposed regulations. We were unanimously of the opinion that the chief object of the rules of the Bankers' Guild has always been the careful handling of moneys on the part of the banks and the protection of credit. The rules as originally drawn were based on the customs and usages of the trade and have been observed for scores of years. In late years, owing to the increase in expenditure and the consequent difficulty in doing business, the rules have been amended from time to time so as to make them more stringent. This year the Chang Yuan and other banks recklessly issued orders without having regard to their ability to meet them and thereby upset the whole market. This was due to Chang Yue and Pao Kang conspiring with the managers of the banks in question and was absolutely in contravention of the rules of the Bankers' Guild. The result was a financial panic. Now that His Excellency the Viceroy has come to Shanghai to assist the market and has, with that object in view, drawn up the regulations, we ought to obey his orders. But the settlement at the end of the 9th moon is drawing nigh and the merchants are much alarmed and that being so if we were to investigate the affairs of the banks now we would arouse greater fears in the minds of the people. Therefore we think that the investigation should be postponed till after the China New Year when the market will be quieter. The pressing matter is to meet the immediate necessities of the situation and we venture to request Your Honour to request His Excellency the Viceroy on our behalf to raise funds for circulation in the market so as to ease the minds of the people and save the situation."

When the Viceroy returned to Nanking on October 28 he made the following announcement:

"I came to Shanghai this time to assist the market and have decided, among other things, that the merchants should borrow a foreign

loan of two million taels against properties of their own as a temporary relief of the tightness of money. On the 19th of the current moon I memorialized the Throne on the subject and on the 20th I received an Imperial Edict to the effect that Chang Rentsing had memorialized by telegram that there was no money in the Shanghai market, and that he had, in consultation with the British Consul, decided that the Merchants should, on the security of their goods and property, borrow a foreign loan, the agreement for which was to be sealed with the official seal of the Shanghai Taotai as guarantee, and that the matter had been referred to the Board of Finance for consideration and report. On the 23rd day I received a further Edict to the effect that the Board of Finance had reported favourably on my proposal, which accordingly was sanctioned.

"As to the securities which the Yuen Feng Jun and other banks have deposited with the late Taotai Tsai Nai-huang against advances out of the pubic funds, we understand that the Viceroy is going to memorialize the Throne that they should be taken over to be realized when the market is better."

The announcement that the deficit in the Chinese budget amounted to Tls. 37,000,000 and the general well founded impression that China's finances were in a bad way added materially to the general depression. Confidence in Shanghai, however, has been in a measure restored by the activity of the Viceroy of the Liangkiang and the interest reported in Peking in providing ways and means to relieve the situation.

Later the report that a $50,000,000 loan had been arranged, the details of which are not at hand, presumably to straighten out the national finances, is sure to have an added optimistic effect.

There can be no doubt that China will weather the storm and out of her experience should come greater effort to establish a standard currency and inaugurate a comprehensive code of banking regulations.

## BENEFITS OF THE VISIT OF AMERICAN COMMISSIONERS TO CHINA

One marked feature of the visit of Pacific Coast businessmen to China was the complete exclusion from the many addresses, that featured the triumphant tour, of any reference that might be given political significance. Indeed, the absence of any political purpose was emphasized at the audience accorded the visitors by the Prince Regent and, in order that no possible excuse might be given for such interpretation, it might be noted that Manchuria, the only section in which America has shown any interest politically, was not included in the commission's itinerary. The foreign press as a whole remained free from prejudicial comment and although a feeble attempt was made to place a construction on the visit and have it appear inimical to Japan's interests in China, it fell flat, popular as such a theory usually appears in commenting on the relations between Nippon and the United States, and China and the United States.

The most important feature of the tour, in our opinion, having a bearing on the future of the commercial relations between the two countries, was the candid discussion of the operation of the American exclusion laws, while the party was in Canton. We believe the comprehensive, frank, and sympathetic address delivered by Mr. Robert Dollar, reproduced in another column, accomplished much towards a better understanding between the two peoples on this subject. He emphasized more effectually than any publicist, previously, the necessity of cooperation in the honest observance of the treaty on both sides of the ocean. The recent thorough investigation in San Francisco referred to was an evidence of good faith on the part of America in this respect and there is reason to believe that the Chinese officials and merchants of South China realize more fully than ever the necessity of guarding against any attempt on the part of unscrupulous officials to violate the spirit of treaty and especially so since it is the innocent merchant who suffers. And, on the other hand, the American government has become active in an endeavor to prevent abuses, so that if this mutual spirit prevails, future conflict on this question is made very improbable.

Not the least feature of the desirable results of this visit will be the spreading of more intelligent information respecting China's potentialities, with increased respect in America for the Chinese people and their institutions. No doubt Chinese Commissioners will soon return this visit and will have an opportunity of getting more closely in touch with American institutions with a similar spread of first hand information in China. The outcome of all this will be better reciprocal trade relations and increased intercommercial activity between the two nations.

The political attitude of America toward China was firmly established during the days of Secretary Hay so that all who run may read. And it is not unlikely that America's consistant friendship since those days made possible the remarkable reception accorded the American businessmen in every section of the Empire visited. So that instead of the tour of the commercial representatives having for its purpose the advancement of any political program, the satisfactory interpolitical relationship established for many years might well be said to be largely responsible for the very cordial reception accorded this representative body of America's citizens.

## THE PASSING OF THE KING OF SIAM

The unexpected news announcing the death of His Majesty, King Chrilalongkarn of Siam, was received October 26, and messages of condolence have been pouring in from every part of the world expressive of sympathy to the royal relatives of this most progressive sovereign.

Paramindr Maha Chulalongkoarn, the late King, was the son of King Paramindr Maha Monkut, his predecessor, and was born in Bangkok on September 20, 1853. He succeeded to the throne on the death of his father October 1, 1868, making his reign of 42 years duration.

His successor is Prince Chao Fa Maha Vajiravudh who was proclaimed Crown Prince in 1895 upon the death of his brother. King Maha Vajiravudh is 29 years of age, has travelled widely and received a thorough western education. He may be depended upon to carry out the progressive policy of his father.

The late King received a western education and upon his accession proceeded to institute reforms in the administration of affairs. In 1874 he issued a decree granting a constitution and abolishing slavery in his dominions and it might be said that he lived to see this decree effective. Postal service and telegraphic communication were inaugurated in 1885. The late King personally turned the first turf in the beginning of construction of the first railway in Siam in 1891 and a system of state railways was begun the following year. He lived to see a comprehensive system operating and construction under way which will link Siam with other sections of Malaysia.

Almost the last official announcement made by the late King was on the occasion of the celebration of his 47th anniversary, September 20, when he declared that the government policy in future would be to use every means to discourage the use of opium in the kingdom.

## CHINA'S ANCIENT COMMERCE WITH THE AMERICAS

In view of the recent visit of the Honorary Commissioners from the Pacific slope to China, with the object of establishing better trade relations, reference to the extension of China's commerce across the Pacific almost 2200 years ago is of special interest at this time, and we are indebted to the Rev. Alexander Darley, author of "China's Three Great Failures," written for the *Cablenews-American* of Manila, through whose courtesy we reproduce a few interesting extracts. "China's Three Great Failures" is written from the viewpoint of a bible student, based on authoritative data, and has reference to the failures of China to embrace opportunities to extend her commerce, to further her influence by colonization and to accept Christianity. Of her neglect with regard to the extension of commerce and colonization Mr. Darley writes:

"*In commerce.*—She has ever been, as now, a merchant, and her first chance came when the Americas were thrown open to her, June 10, 217 B. C.; for on that day Captain Hee Li struck the California Coast near the Monterey of the present. He came to do it in this way:—He was owner of a small junk engaged in the coasting trade, and in a February typhoon was driven out to sea. A *yong si bug*, very much similar to our cockroach, got into the compass and, struggling to get free, finally fixed the needle so that it pointed South instead of North, and died fastening it in that direction. Hee Li was surprised to see China's shores recede, but conservatively stuck to his compass and went east for three months. Once, on the way, Hi, one of the sailors, noted that the sun always arose ahead instead of behind the ship and so told Hee Li, but the captain promptly threw him overboard. Had not his fathers used the compass since the days of the earliest dynasty, and wasn't it too late to doubt? When they landed between the 36 and 37 degrees of North latitude, the bug in the compass was discovered. But they had lost a sailor and found a continent.

"Hee Li and his crew of ten explored the coast three months, 50 miles south and 150 north. He entered the Golden Gate and called the Bay of San Francisco, Hong Tsi, or Great Bay. He started back in September, getting home near the end of the year. He greatly praised California's climate, and trade was kept up for 100 years, junks visiting the new land every few months.

"Hee Li died in 197 B. C. Lately it has been discovered that the roots of the language of the Digger Indians are much like those of the Chinese, showing that settlers followed the sailors.

"This discovery occurred in China's most virile and enterprising days, in the reign of Chin Wang, called the Chinese Napoleon because he consolidated China's numerous petty kingdoms into one. So she failed of her wondrous opportunity by seeking home consolidation instead of foreign commerce. What was left to her on our coast fell to Digger Indians' grade. But history ever repeats itself. Where is our American commerce? Lost in home consolidation, just the same as it was lost to China. And because we have put out our hand across the seas, a great anti-imperial cry has gone up. The Sons of Japheth must expand or die!

"*In colonization she failed.*—Witness the above Digger Indian outcome, and Dr. W. F. White of New York says there is a strong resemblance between the Alaskan Indians and the Chinese.

"In fact, China has had two or three trials at the Americas. My old friend, Judge Crosby of Del Norte, Colo., told me that the Indians about Vancouver resemble Chinese and decapitate, instead of scalp, their enemies. Dr. Plougeon, before the New York Geographical Society, said that there was a small village on the Northern coast of Peru called Eten, whose language the other peoples of the neighborhood could not understand, but the lately imported coolies from China could. Further south, idols resembling those worshipped in China have been dug up.

"The Chinese inscriptions on these idols are in antique characters showing a very early migration, possibly as old or older than Hee Li's time. One little village in all South America left to tell the tale of ancient enterprise! Alaska, California and Peru:—the Americas lost, because the people's look was backward to themselves instead of forward—the way God ever points."

It would appear from Mr. Darley's conclusions that America and China have in common suffered from lost opportunities for trade expansion due to the same complaint and that their respective Hee Lis have heretofore been without adequate recognition and but negligently supported.

## SHANGHAI AND HER RUBBER PROBLEM

While the native banks are having their rubber bubble aftermath, the speculators who failed to get from under before the deceptive bubble burst, as yet, fail to see a way out of their dilemma. Many suggestions have been offered, few of them practical, and none of general acceptance. The trend of opinion

toward organized effort looking to relief is growing, but initiative has been lacking.

Among the latest proposals is that of Mr. Edward S. Little of Shanghai set forth in a letter to the press in which he included an invitation to the shareholders of any Shanghai rubber company to participate in a public meeting to be held November 9 for the purpose of considering a resolution which Mr. Little proposed to submit "asking the shareholders to appoint a committee of from nine to fifteen representative men, who shall consider sundry propositions with a view, if possible, of evolving a practical scheme for the protection of the shareholders' interests."

Among the subjects Mr. Little proposed for the consideration of this committee was the forming of an association and the future methods of management of Shanghai rubber companies. Mr. Little further suggested that all rubber properties involved should be revalued by experts and the companies amalgamated with a view to economic management.

A correspondent of the *N. C. D. News* is opposed to spending money for expert reports and urges that by this time the Boards of Directors of the different companies should have all the necessary information and it ought to be made available to the shareholders for their information.

"Practical" also believes that with effective economical direction the majority of the Shanghai companies could be made to pay.

This last proposal is considered editorially by the *North China Daily News*, but that journal goes further and urges that the moral phase of the recent boom be gone into first and restitution made where profits accrued through misrepresentation and contracts entered into based on fraudulent data should be cancelled. That journal says:

"Against possible criticism in opposition to this scheme that such a step would be without precedent or derogatory to the directors or in some other way prejudicial to the interests of the company it has to be pointed out that the situation is exceptional and that Shanghai shareholders can hardly be expected to be over-sensitive in regard to anyone's feelings in this connexion. In our opinion, however, something more remains to be done after revaluation of the rubber estates, before Shanghai can hope to recover from the crisis that has affected both its finances and its morals. No section of the community can pride itself on exemption from the immorality of the boom. The public clamoured for shares; directors lent their names for the asking, trusting to vendors' or promoters' assurances; vendors and promoters, if of Shanghai, trusted to the statements of someone else or considered that details were unimportant with rubber over eleven shillings a pound and the public ready to take any shares that were offered them. But the difference between these three sections is that, where a company's estate proves not to be what it was stated to be, the vendors and promoters alone have derived any benefit. The public may have been crazy for shares, but their madness had thus much method in it that they demanded those shares only from those whom they regarded as trustworthy business men. If these latter have been deceived, they may plead that it is their misfortune and not their fault only so long as they have not benefited through the deception. There can be no justification for retaining profits made over a false deal. A vendor disposes of an estate on the understanding that it is of such and such a value in virtue of its area and the number of trees, of a stipulated growth, that it contains. If a few months later it can be proved that the estate fails entirely to correspond with the description of it given by the vendor, shareholders have not received what they agreed to buy and are not bound to pay the sum covenanted. Where the vendors are of Shanghai it may be supposed that they will voluntarily surrender the profit to which they are not entitled, and we presume that even in other cases the directors of companies placed in such a position will attempt to recover part of the purchase price. With companies that have been misled in the manner indicated and have parted with vendor shares a solution of the difficulty might be found, if these shares are still unsold, by their destruction in whole or in part. Finally there remains the class of company that may be unable to point to actual grave discrepancies between the prospectus and more recently ascertained facts, but finds that the prospects held out originally prove altogether misleading. In such cases it is obvious that the property cannot hope to be a success while it is paying its agents or secretaries an annual sum equivalent perhaps to the possible output of rubber from the estate three years hence. Here again is an instance where directors must see to it that the interests of shareholders are safeguarded. In this way can directors, who accepted their posts only too lightly, shoulder, though late in the day, some of their responsibilities. Then with economies effected in these directions Shanghai may have some chance of proving the truth of 'Practical's' optimistic belief that 'under competent and economical management most if not all' of the companies may in time give a fair return to shareholders."

There can be no doubt but that the *N. C. D. News* has struck at the root of the matter. Whether its counsel will be appreciated is another matter. What seems to be the greatest drawback to intelligent adjustment is lack of confidence and co-operation. The loss of capital and credit is a serious misfortune to the individual but loss of confidence and lack of co-operation involving a whole community is disastrous.

DR. HINCKLEY, RECENTLY APPOINTED DISTRICT ATTORNEY OF THE U. S. COURT FOR CHINA. HE IS A GRADUATE OF COLUMBIA WITH DEGREE PH. D. AND THE AUTHOR OF A BROCHURE ON "AMERICAN CONSULAR JURISPRUDENCE IN THE ORIENT"

## DEMOCRACY'S TRIUMPH AT PEKING

The eyes of the world are on the Tzucheng Yuan in its initial session and it is most gratifying that with rare exception the tone of the comments of the foreign press is sympathetic. The deliberations of this body have been marked by great decorum and while the element of control lies in the appointees of the throne, and it was expected that they would represent reactionary influence, their almost unanimous approval of the recommendation for the early convening of the parliament, demonstrated that the leaven of democracy is permeating the most aristocratic circles in Peking.

The edict of the late Empress Dowager provided for a parliament in 1915 thus giving sufficient time for the gradual development of a constitutional form of government. The Prince Regent in carrying out the reform movement followed the spirit of the edict, but with the remarkable adaptability shown by the provincial assemblies, the reform element became the more confident and urged an earlier date than that arranged for the convening of this popular body. This confidence rapidly spread with the result that from every section of the empire and from Chinese in foreign countries petitions for an immediate parliament came pouring in.

The appointment of half the members of the senate from among the imperial connections and officials by the Prince Regent was presumed to provide a restraining influence upon too insistent democracy, but we find that even the Imperial appointees have become imbued with the progressive spirit to the extent that when a resolution was presented recommending the convening of a popular parliament at an early date, only a corporal's guard were found to oppose it.

The recommendation went to the Prince Regent on October 27 and there was for a time prospect that he would decide to call a parliament for 1911. Tsai Tse, President of the Ministry of Finance, upon introducing the budget for the consideration of the Yuan, declared that the only remedy for the deplorable condition of the nation's finances would be found in a parliament which he hoped would be convened at an early date.

From every section of the empire congratulations poured in on the members of the Yuan and petitions followed in support of their recommendation.

On November 4 a cablegram from Peking announced that the Prince Regent had issued an edict declaring that a parliament would be convened in 1913. In the more radical press the Prince Regent's action is interpreted as evidence of active reactionary influence, but that it is a victory for the reform element is generally recognized. It also indicates recognition of the growing strength of the latter element in every walk of Chinese life and since the first attempt at securing an early parliament resulted in reducing the time by two years why not a further shortening of the time by keeping up the good work?

## THE SUGAR INDUSTRY OF MOROS

*(Continued from page 206.)*

The results from plant cane and ratoons show that one hectare of plant cane on good land produces 100 piculs or 6.22 metric tons; first ratoons 80 piculs or 5.06 tons; second ratoons, 70 piculs or 4.43 tons; third ratoons 60 piculs or 3.80 tons; fourth ratoons 50 piculs or 3.16 tons. It is obvious that after the fourth year the ratoon crop would prove unremunerative.

The present facilities for transportation and milling are antiquated. Hand loading and the carabao cart prevail although on the larger plantations tramways on which the cars are propelled by hand, drawn by carabaos, are in use, or where possible, a gravity tramway is installed. One hacienda uses a traction engine.

The mills are divided into three classes, viz: those driven by steam, those driven by water power, and those using carabao for motive power. The last named are being superseded by the steam and the water power has so far been utilized only by small haciendas in the interior where small streams provide power.

The steam mills are practically all of English or Scotch origin, of the ordinary 3-roller type, driven by direct-gear connection with a single-cylinder engine running at from 40 to 80 pounds steam pressure, and rated at a nominal horsepower of from 6 to 16, the average throughout the island being about 8 to 10. It is calculated roughly that each horsepower possessed by an engine is capable of grinding sufficient cane in an ordinary working day of twelve to fourteen hours to make 10 piculs (632.5 kilos) of sugar, so that the average mill of Negros may be said to have a daily capacity of from 80 to 100 piculs (5.1 to 6 3 metric tons) of sugar, or approximately 50 to 60 tons of cane.

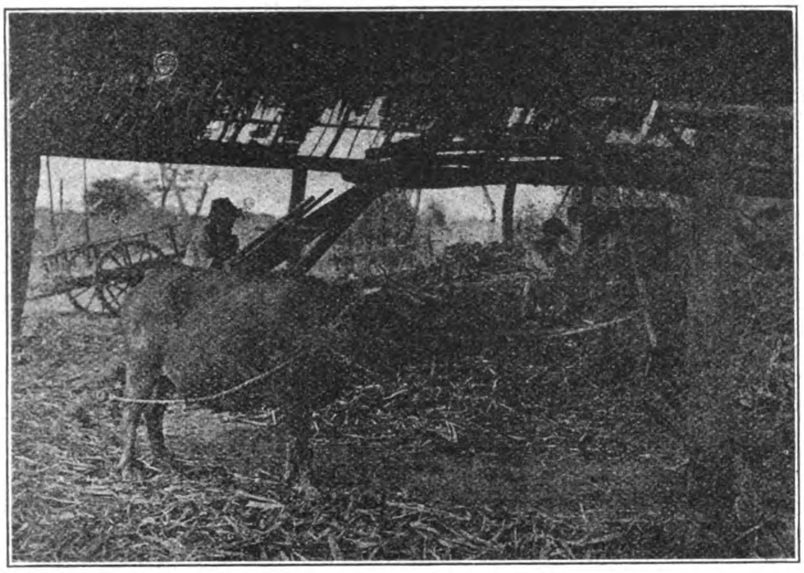
The bagasse is used for fuel after it is dried in the sun and care is taken to maintain a large supply in anticipation of continued rains.

In the extraction of the juice, Mr. Walker concludes that the "average planter of Negros loses in the bagasse about 25% of the total sugar present in the cane. In extreme cases, with very soft and tender cane, this may fall as low as 20%, and when grinding very fibrous cane it may rise as high as 33%. The extraction of juice on the weight of the cane may range from 50 to 70% but averages about 64.5%. Therefore from 100 tons of cane there are obtained 64.5 tons of juice. Compared with the Barbadoes, where equal primitive methods are employed, the Negros cane is of superior milling quality.

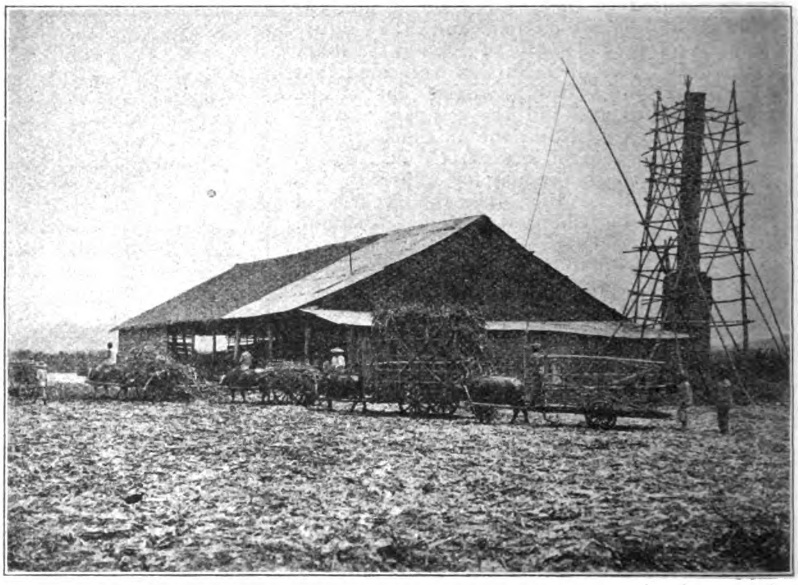
In the manufacture of sugar from the juice, sugar boiling plants in Negros consist essentially of a "battery of hemispherical iron vessels or 'cauas' usually five or six in series in which all the operations of tempering, clarifying, concentrating the juice, and boiling the resultant syrup to a concrete are performed."

A detailed description of the processes in Negros and results follow and a final résumé in the form of a table covering 30 tests gives the following average showing the composition of the mill juice and the quality of the sugar produced by a number of mills in Negros:

Mill juice: Brix-1971; sucrose 17.20; quotient of purity, 87.03; reducing sugar, 1.20. Sugar Made: polarization 82.0; reducing sugar, 8.9. Reducing sugar per 100 sucrose: In juice, 7.4; in sugar, 11.4.

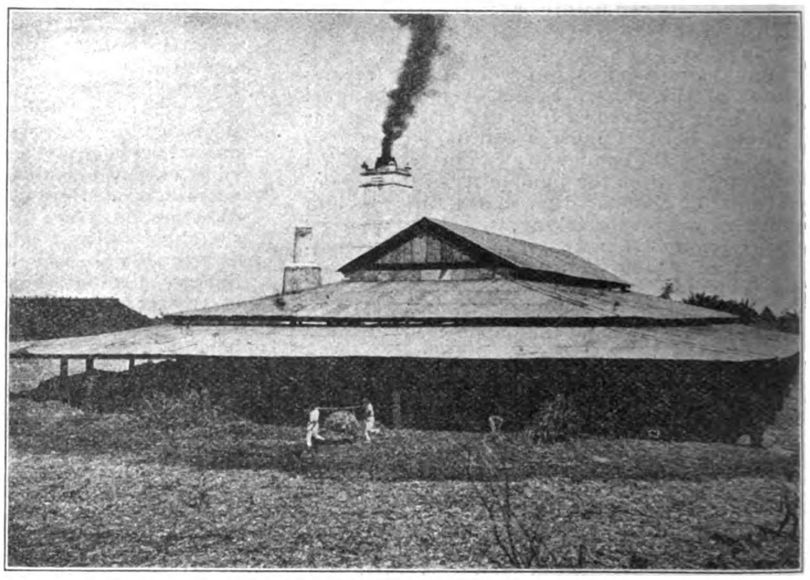


CARABAO MILL



CAMARIN AND CARABAO CARTS

INTERIOR OF THE CAMARIN



SIDE VIEW OF CAMARIN

---

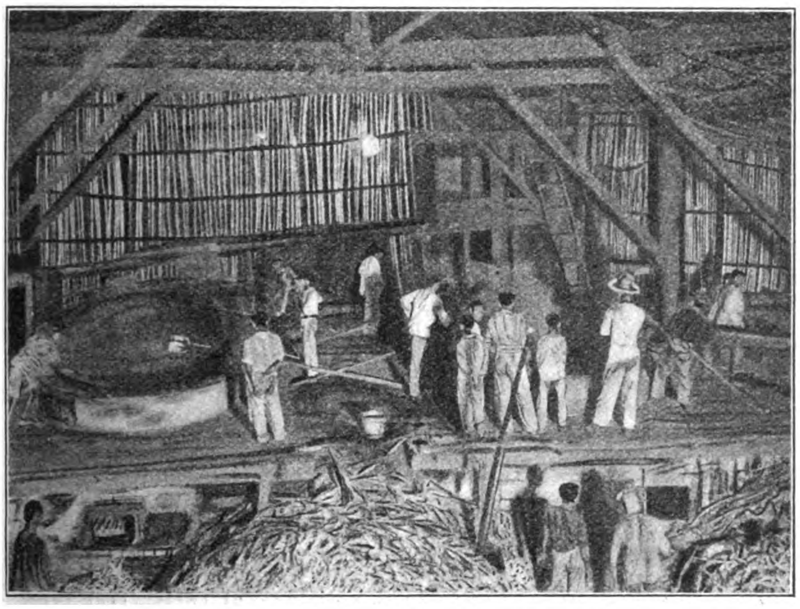
At this juncture the sincerity of the Prince Regent in his desire to further consistant reform is more generally recognized and, while he believes in making haste slowly, he has succeeded in responding gracefully to a popular expression at a most critical period of the Empire's history. And it might be said that every trial of strength between the reformers and the reactionaries is a splendid test of capacity for popular government. The dignity and decorum that marked the conduct of the members of the Yuan during the recent proceedings furnish friends of China with the most desirable evidence on that score. That alone was a real and lasting victory for the progressive Chinese.

The results of these tests agree closely with the Iloilo records of sugar bought there, 82.6 polarization.

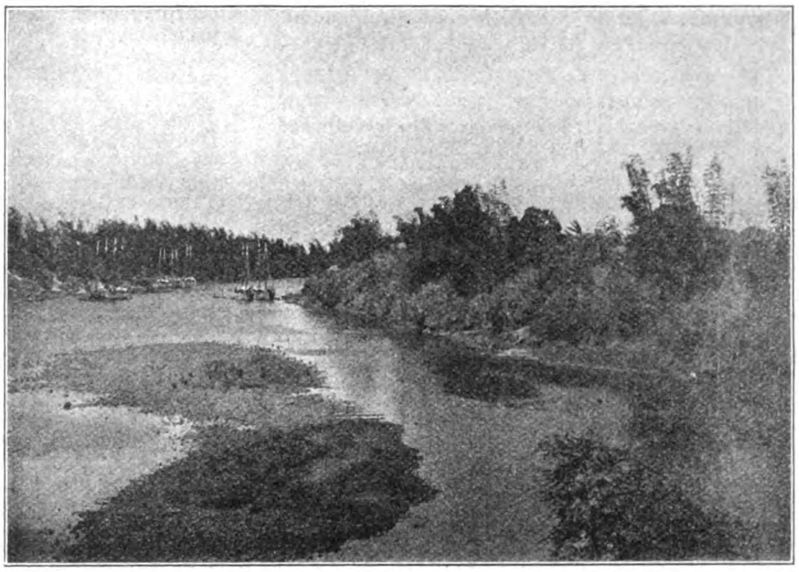
Mr. Walker proceeds to show the increased returns that might accrue the planter by the exercise of greater care and the introduction of improved methods not only in cultivation but in mills and sugar making plants.

"In the New York market the price quoted for Iloilo 'Assorted' is practically constant at 1 cent gold per pound less than that of 96° centrifugal. Therefore it would be logical to presume that at least the same difference in value would hold good in Iloilo, or, since a central factory of any size would be in a position to ship its sugar directly to New York at the same cost as if shipped from Iloilo, the value of 96° centrifugal sugar at the factory in Negros may safely be assumed to be, under normal market conditions, 1 cent gold per pound, or 2.689 pesos per picul, or 44.09 pesos per metric ton greater than that of 'Assorted' at Iloilo at any given time. With Iloilo prices 96° centrifugal would be worth at the factory in Negros 9.914 pesos per picul, or 156.75 pesos per metric ton (3.56 cents gold per avoirdupois pound).

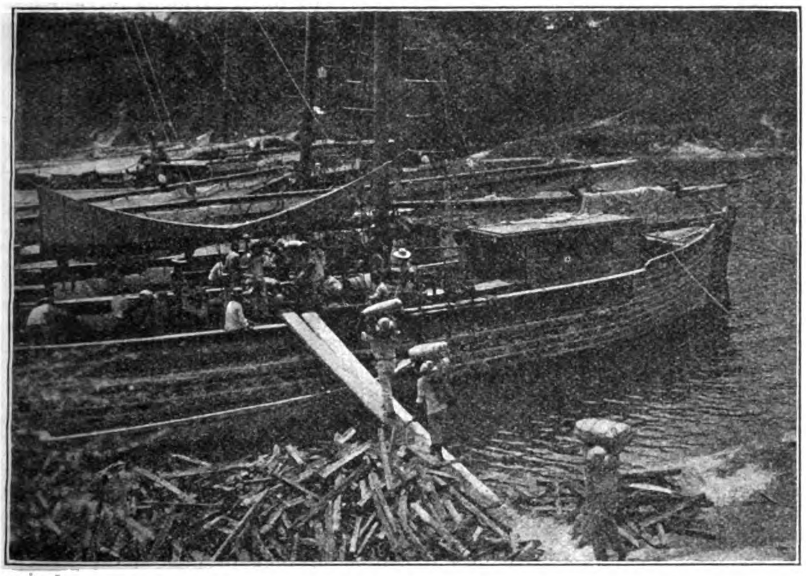
. . . . . . . . . . . . . . . . .



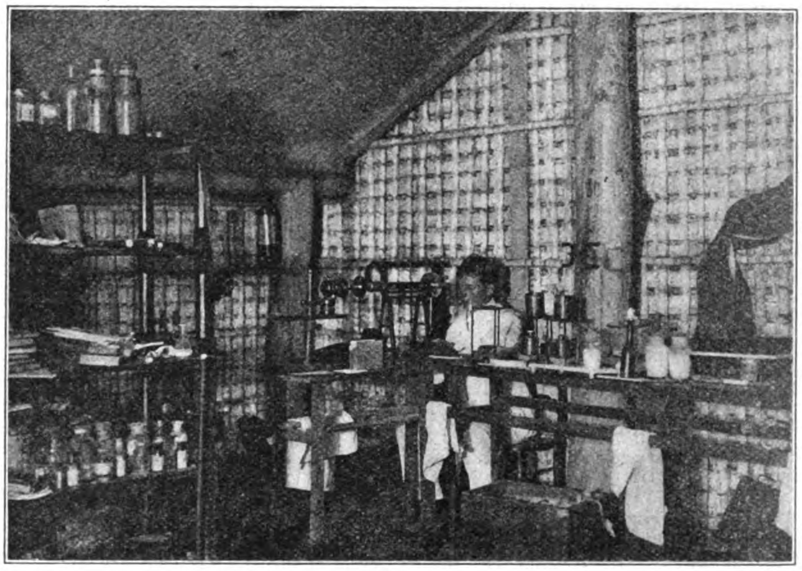
SUGAR BOILING IN NEGROS



BAGO RIVER AND SUGAR LORCHAS



LOADING SUGAR ON LORCHAS



TEMPORARY EXPERIMENTAL LABORATORY

CUTTING CANE IN THE FIELD

"Negros sugar is practically all sold in Iloilo, where it is classified as 'Superior' Nos. 1, 2, and 3, "Wet," and "Current," of polarization minima of 87°, 85°, 80°, 76,° and 70°, respectively. The difference in market price has heretofore been arbitrarily fixed at 25 centavos between grades of 'Superior.' The two lower grades have usually been shipped to China, and bear no fixed price relation to the 'Superior' sugars."

The ruling prices in Iloilo in the above grades (since advanced) were: Superior No. 1, ₱7.50 a picul or ₱118.59 a metric ton; No. 2, ₱7.25, ₱114.63; No. 3, ₱7.00, ₱110 68; assorted, ₱7.12, ₱112 66; Wet, ₱5.62, ₱88.96, and current ₱4.00, ₱63.24.

The average cost of producing sugar by the present process in Negros is ₱4 15 a picul or ₱65.61 a metric ton, so it will be seen by the above prices that "current" is produced at a loss of ₱2.37 a ton while if modern methods were employed, and 96° sugar produced, a profit of ₱3.14 a ton would be realized. Relative increase of profit would also be secured on the other grades.

Concluding his summary with respect to the future of the Negros sugar industry which applies generally to other sugar sections in the islands as well, Mr. Walker says:

# CONTRACTING NEWS

CONTRACTS AWARDED—Municipality of Shanghai.—Electric Cables and Fuse Boxes:—

11 miles Hard Drawn Bare Copper Cable, manufactured by the Felten and Guilleaume Lahmeyerwerke in accordance with the specification, Messrs. Siemssen & Co., at £75 5s. per ton copper weight, say (£946 5s. 3d.), delivery within 13-14 weeks after receipt of order. The remaining tenders are as follows:

| | £ | s. | d. |
|---|---|---|---|
| Inniss & Riddle | 924 | 16 | 10 |
| Jardine, Matheson & Co. Ld. | 950 | 0 | 0 |
| Takata & Co. | 960 | 2 | 7 |
| British Insulated Cables Co. | 972 | 5 | 0 |
| Calder Marshall & Co. | 985 | 10 | 0 |
| Brighten, Malcolm & Co | 985 | 10 | 9 |
| Garrels, Borner & Co. | 986 | 11 | 8 |
| Siemens Schuckertwerke | 991 | 0 | 0 |
| Arnhold, Karberg & Co. | 994 | 0 | 0 |
| Melchers & Co. | 999 | 16 | 0 |
| Calder Marshall & Co. | 1006 | 0 | 0 |
| do. | 1018 | 10 | 0 |
| Johnson and Phillips | 1027 | 0 | 0 |
| Shanghai Machine Co. | 1031 | 6 | 8 |
| Shewan, Tomes & Co | 1063 | 7 | 2 |
| Inniss & Riddle | 1080 | 0 | 0 |
| Collins & Co. | 1093 | 10 | 0 |
| Rose, Down & Thompson | 1125 | 19 | 5 |
| W. T. Henley's Telegraph Cable Works | 1134 | 11 | 6 |
| Cleveland Engineering Co | 1169 | 16 | 8 |
| Craig & Co | 1230 | 12 | 0 |
| P. Muller | 1452 | 0 | 0 |

1,000 single-pole, 50 Ampere, 200 Volt, House Service Fuse-boxes, manufactured by the W. T. Henley's Telegraph Cable Works in accordance with the specification, Mr. David W. Bell, at 4s. 10d. per set (say £120 16s. 8d.), delivery within 14 weeks from date of receiving order. An identical tender has been received from the W. T. Henley's Telegraph Cable Works direct, but acceptance of the local tender is considered preferable.

The remaining tenders are as follows:—

| | £. | s. | d. |
|---|---|---|---|
| W. Lucy & Co. (f, o. b.) | 89 | 11 | 8 |
| Johnson & Phillips | 101 | 0 | 0 |
| W. Lucy & Co. (f. o. b.) | 106 | 5 | 0 |
| Collins & Co | 107 | 10 | 0 |
| Takata & Co | 108 | 7 | 10 |
| Jardine, Matheson & Co. Ld. | 119 | 0 | 0 |
| Cleveland Engineering Co | 120 | 0 | 0 |
| Rose, Down & Thompson | 134 | 7 | 6 |
| Shewan, Tomes & Co | 140 | 0 | 0 |
| Inniss & Riddle | 165 | 0 | 0 |
| Rose, Down & Thompson | 165 | 2 | 1 |
| Brighten, Malcolm & Co | 170 | 0 | 0 |
| do. | 170 | 0 | 0 |
| Inniss & Riddle | 172 | 0 | 0 |
| Brighten, Malcolm & Co | 196 | 17 | 6 |
| British Insulated Cable Co | 204 | 0 | 0 |
| Cleveland Engineering Co. | 210 | 0 | 0 |
| Inniss & Riddle | 256 | 0 | 0 |
| Calder Marshall & Co | 394 | 5 | 0 |
| do. | 458 | 15 | 0 |
| Siemens Schuckertwerke | 505 | 0 | 0 |
| Siemssen & Co. | 510 | 0 | 0 |
| Garrels, Borner & Co | 517 | 10 | 0 |
| Arnhold, Karberg & Co. | 790 | 0 | 0 |
| Melchers & Co | 1031 | 17 | 0 |

*Seward Road Bridge.*—Tenders received for the erection and completion of the reinforced concrete substructure of the Seward Road Bridge across the Hongkew Creek, that of Yao Sing-kee, Tls. 4,059.06 was authorized for acceptance. The remaining tenderers are as follows:—

| | |
|---|---|
| Yue Chang-tai | Tls. 5,321 |
| Silby and Evans. | 5,400 |
| Fong Ling-kee | 5,854 |
| Chang Foo-kee | 9,150 |
| Zee Zung-tai | 9,222 |
| Sing Woo-kee | 12,250 |

Installation of fire service in the Gordon Road Depot and extension of Hot Water Heating apparatus in the new greenhouse at the Reserve Garden awarded the Shanghai Waterworks Co., Ld., Tls. 820 and Tls. 540 respectively. Erection of new kitchen, etc., at Louza Police Station, Zee Shun Shing, Tls. 1,200, were awarded the contracts.

BIDS OPENED.—Bureau of Public Works, Philippine Islands.—Furniture and Equipment, Philippine General Hospital.—S. C. Choy & Co., ₱10,870, in 140 days, and Manila Saw Mill Company ₱5,931 in 180 days.

BIDS OPENED.—Bureau of Public Works.—Cebu Waterworks.—J. E. Ainsworth bid on A. B. C. as follows: A, construction of dam and spillway, ₱148,060. B, construction of reservoir, ₱63,850; and C, construction of distributing system, ₱99,651, or a total of ₱311,561.

The Manila Construction Company bid as follows: A. ₱142,650, B. ₱76,450, C. ₱106,095 or a total of ₱325,195.

Coleman & Goodman: A. ₱133,010, B. ₱78,150, C. ₱108,142 or a total of ₱318,302. Their offer called for an award on all three or none.

The Atlantic Gulf & Pacific Co. bid on A. B. C. and D., the last named representing the delivery and purchase of the material for the distributing system and main pipe line. They bid on A. ₱144,385, B. ₱73,457.50, C. ₱90,247.90, or a total of ₱308,090.40, on D, they bid ₱155,537.50 which makes a grand total on the work and supplies of ₱463,627.90. The A. G. & P. Co. bid on A. B. C. and D, collectively, and on A. B. C. separately. They specified that they would accept D. separately with a 5% increase.

Robert M. Loper bid A. ₱121,380, B ₱82,410, C. ₱111,372, or a total of ₱315,162, D. ₱170,058.14 or a grand total of ₱486,058.14. Mr. Loper's bid called for A. B. C. collectively or one.

A. Moll & Co. bid on supplying materials only. Their bid was for D. ₱159,866.11, duty paid. The "duty paid" is not clear, but it is presumed to mean that they will pay the duty on the goods that they submit.

Messrs. Peabody & Co. bid on D. only, ₱154,427.36 for English material and ₱155,805.25 for American. The English bid omitted 96 post fire hydrants. They also specified that should the work be awarded to the Manila Construction Company they would reduce the price ₱1.75 per ton on both bids.

Messrs. Findlay & Co., bidding for Robert McClarien & Co., bid ₱157,481.86 on D. providing all pipe and specials could be delivered in one lot instead of two, and that they be allowed to furnish class A fire hydrants.

The Atlantic Gulf & Pacific Co. are the lowest bidders for all the work and are also the lowest bidders for A, B, and C, but they are not the lowest bidders on D, if taken separately. All the bids have been taken under advisement by the Director of Public Works.

PROPOSALS INVITED.—Tientsin-Pukow Railway (Southern Section). Third Class Passenger Cars. Sealed tenders are invited for the supply to this Railway of twelve (12) third class passenger cars. Specification and Blue Prints of same may be obtained from the Railway Purchasing Agent, Taotai Y. C. Tong, Imperial Chinese Telegraphs, The Bund, Shanghai, on the payment of a fee of Dollars Twenty-five ($25.00) which amount will be returned, upon application to the Agent, on receipt of a bona-fide tender.

Tenders should be addressed to the Managing Director, Tientsin-Pukow Railway, Southern Section, Nanking, and should be clearly marked on the outside "Tender for Twelve Third Class Passenger Cars, Indent No. 104." They will be opened at the Head Office, Nanking, at 10 a. m., 1st December, 1910. No tenders submitted after the hour mentioned will be considered.

Tenderers are requested to carefully note the following conditions: All the Cars must be delivered "ex ship's slings" on the Railway Wharf at Pukow at Contractor's risk and cost, before end of June, 1911. A fine of Five Shillings per car per day will be deducted from the contract price as liquidated damages for each day car or any part of it remains undelivered after the date mentioned. Customs Duty and Wharfage Dues at Pukow for Railway account, all other charges for Contractor's account.

Quotations must be in Sterling and the names of proposed makers must be stated. Payment will be made Twenty (20) days after complete acceptance of each shipment, in Shanghai or London at Contractor's option.

CONSTABULARY CLOTHING SUPPLIES.—Sealed proposals in triplicate, subject to the usual conditions, will be received at the office of the Chief Supply Officer Bureau of Constabulary, Old Oriente Building, Manila, until ten a. m., December 17, 1910, and then opened in the presence of attending bidders for furnishing the Bureau of Constabulary the following articles:

6,000 khaki hats.
24,000 cotton undershirts.
7,500 spiral-cut khaki woolen puttees for enlisted men.
50,000 yards of khaki cloth.

Bids must be accompanied by samples.

Time for delivery to be stated in proposal and to be considered in awarding contract.

Samples may be seen and blank proposals obtained at the office of the Property Officer, Bureau of Constabulary, Old Oriente Building, Manila.

As a guarantee of good faith each proposal must be accompanied by a certified check for ten per cent of bid. Letter of guarantee from bank will be accepted in place of check.

---

"A few possibilities for improvement are suggested, the chief among them being the substitution of modern methods of manufacture. It is shown that the average planter could by selling his cane to a central factory earn a somewhat larger profit from it than by manufacturing it into sugar himself under the present method, the difference in profit being much more marked with inferior than with very rich and pure cane. The greatest benefit to the planter under the modern system would result from his being thereby rendered independent of manufacturing details and largely of weather conditions, so that he would be enabled to operate on a much smaller working capital and at the same time secure better results from his land.

"The annual limits of sugar production in Negros during the next fifteen years may be estimated at about 220,000 metric tons of low-grade sugar under the present system of manufacture or 500,000 metric tons of 96° centrifugal sugar if a complete change should be made to modern methods of manufacture. The larger production under the modern system would be due not so much to a greatly increased yield as to the stimulus to the industry in general and consequent improvement in cultural methods which would follow in its train."

The illustrations accompanying this article are published by courtesy of the Bureau of Science.

# PHILIPPINE MINING NEWS

CONSOLIDATION IN BENGUET.—A recent meeting of shareholders of the Benguet Consolidated, the Bua Mining Company and the Camote-Clayton group resulted in a tentative proposal to combine for the purpose of interesting Hongkong capital in the installation of a plant to handle the output of the three properties. It is proposed to turn over to the Hongkong Company all the machinery and equipment now owned by three companies. Then a satisfactory site would be selected and these plants assembled with sufficient new machinery added to provide a plant large enough to handle all the ore that can be taken out. Nels Peterson, representing the Consolidated, Mr. Reavis, the Camote-Clayton, and Mr. Powers, the Bua, have been named to go over the ground and prepare plans and a preliminary estimate. It is expected if this arrangement goes through other properties in that vicinity will enter into an arrangement to supply the custom's mill with ore. The Consolidated saved 94 ounces last month.

General Manager Bridgeman of the Philippines Exploration Company returned from New York early this month. He leaves for Paracale to inspect the San Mauricio and other properties of the company. Mr. Kane, who accompanied him to the United States, remained there to superintend the construction of a dredge for the Guamas company.

THE COLORADO MINING CO.—This company, which controls rich lode properties in Masbate, expects to commence active milling operations the latter part of March, 1911. The plant will comprise a battery of twenty stamps with complete cyanide equipment. The capacity will be about 100 tons daily. The buildings have all been erected and the last consignment of machinery was shipped to Masbate early this month. For the last eight years continuous development work has been under way and perhaps, without exception, no mining property in the islands has been more effectually uncovered and the ore bodies more clearly defined.

As a result, once the mill is started there will be no delay for need of plenty of ore to keep the plant employed. The gold values are of a very satisfactory average. This mine has been developed entirely by American capital.

PARACALE DREDGING NEWS.—The operations of the Stanley dredge have been suspended owing primarily to a broken shaft and later to some differences between the mine owners and the New Zealand people over the contract.

The Philippines Dredger operating on the Malaguit River returned 72 ounces last month and is working most satisfactorily.

The Paracale Gold Dredger continues successful operations and the Huntington Mill for handling the rich quartz brought up by the buckets will begin operations by the first of the year. The output of the dredger for October was 400 ounces.

THE TUMBAGA MINING CO.—A meeting of the shareholders of this company was held in Manila October 24 at which it was decided

---

SALE OF HULL.—Sealed proposals, in duplicate, will be received at the Office of the Chief Quartermaster, Department of Mindanao, Zamboanga, P. I., until 3:00 p. m. December 7th, 1910, and then opened in the presence of attending bidders for the Hull of the Quartermaster Launch "Atlanta." Proposals must be accompanied by Certified Check, payable to the order of the Chief Quartermaster, Department of Mindanao, in the sum of ten (10%) per cent of the amount of bid. Information furnished upon application at this office. F. G. Hodgson, Assistant Quartermaster General, U. S. Army.

SCHOOL SUPPLIES.—Sealed proposals in triplicate will be received at this office up to 11 a. m. November 25, 1910, when they will be opened in the presence of the attending bidders, for furnishing and delivering school supplies.

Proper forms and specifications may be had on application to this office.

BUREAU OF PHILIPPINE CONSTABULARY.—Shoes.—Sealed proposals in triplicate will be received at the office of the Chief Supply Officer, Bureau of Constabulary, Old Oriente Building, Manila, until ten a. m., February 17, 1911, and then opened in the presence of attending bidders, for furnishing the Bureau of Constabulary 10,000 pairs of shoes.

Bids must be accompanied by samples.

Time for delivery to be stated in proposal and to be considered in awarding contract.

Samples may be seen and blank proposals obtained at the office of the Property Officer, Bureau of Constabulary, Old Oriente Building, Manila.

As a guarantee of good faith each proposal must be accompanied by a certified check for ten per cent of bid. Letter of guarantee from bank will be accepted in place of check.

PUTTEES.—Sealed proposals in triplicate, subject to the usual conditions, will be received at the office of the Chief Supply Officer, Bureau of Constabulary, until ten a. m., January 11, 1911, and then opened in the presence of attending bidders, for furnishing the Bureau of Constabulary.

1,000 pairs of puttees, woolen, spiral, for officers.

Bids must be accompanied by samples.

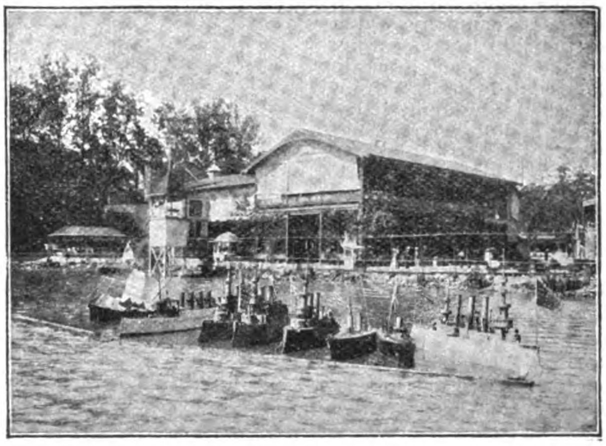
Time for delivery to be stated on proposal and to be considered in awarding contract.

Samples may be seen and blank proposals obtained at the office of the Property Officer, Bureau of Constabulary, Old Oriente Building.

As a guarantee of good faith each proposal will be accompanied by a certified check for ten per cent of bid. Letter of guarantee from bank will be accepted in place of check.

PUBLIC WORKS DEPARTMENT, SYDNEY, NEW SOUTH WALES.—Coal loading plant capable of delivering into ships' holds about 1,000 tons of coal per hour at each side of a new jetty to be erected at Port Kemble, South Coast, N. S. W. Contractors' Room, Public Works Department, Sydney; and office of the Agent General of New South Wales, London. Bids opened January 9th, 1911.

SHANGHAI MUNICIPALITY.—Annual supply of Petroleum Lubricating Oil, Motor Spirit, etc. Tenders to be submitted not later than November 30 and should be addressed to W. E. Levenson Esq., Secretary, endorsed "Tenders for Oil."



## A Novel Fleet of Miniature Motor Driven Battleships

The above is not a fleet of monster death dealing battleships as might be supposed at first glance, but a small part of a efleet of 26 miniature battleships that react famous naval battles at an amusement park in Cincinnati, Ohio. The fleet consists of men of war, torpedo boats, destroyers and all types of war vessels. They are from 9 to 15 feet in length, constructed entirely of steel and completely fitted out in all respects to their particular class, especially having a full equipment of guns.

These boats were built in Hamburg, Germany, and for several years were exhibited in the principal cities of Europe. The shows were so successful that they were continued for two months in Hamburg. During the European Tour a trained man was carried to operate each boat. Motive power was furnished by means of electric motors.

Mr. J. Weaver, president of the Ludlow Lagoon Amusement Co., of Cincinnati, learned of these boats and immediately foresaw an opportunity to place a show on the road. He purchased the outfit and had them shipped to Cincinnati, where they have been showing for sometime. After purchasing the fleet Mr. Weaver decided that gasoline motors would furnish more satisfactory motive power than the electric motors with which they were powered. He conferred with several engineers, one of whom was Lewis E. Bedinger, District representative at Cincinnati for the Ferro Machine & Foundry Co. After figuring over the proposition Mr. Bedinger guaranted Mr. Weaver that the 3 HP 1910 Ferro would run the boats at the required speed and give most satisfactory service. A test was made and the first show that was put on proved such a great success that Mr. Weaver ordered Mr. Bedinger to equip the balance of the fleet with 3 HP Ferro Specials. They are being installed rapidly and the majority are now in operation.

Among the famous naval battles reacted are the Monitor and The Merrimac, The Battle of the Harbor of Manila, The Battle of Port Arthur, and several others.

Mr. Weaver is booking dates for his novel exhibition and he expects soon to start upon an extensive tour of this country.

# FAR EASTERN RAILWAY NEWS

JAPANESE RAILWAYS.—The total receipts for the five months ended August 31 amounted to Yen 37,271,383, an increase of Yen 1,493,613 over the corresponding period, 1909. The average mileage, including 640 miles in Chosen, was 5,346 miles, 146 miles more than in 1909.

THE PENINSULAR RAILWAY.—The construction of the Siamese end of this line from Petahaburi along the east coast toward the Kelantan border where it will join the line from Singapore is progressing. A branch running west from Tung Sawn to Trang on the west coast is also included in the Siamese railway program. Penang is agitating a link connecting Prai via Kedah and Perlis directly with the Siamese line. The *Bangkok Times* claims that with the completion of the present line to Trang the latter would be Penang's natural port. The *Penang Gazette* claims that the outcome of the present plans means that Penang will be left out in the cold.

AUSTRALIAN RAILWAYS.—The number of miles open to traffic during the year ended June 30, on the New South Wales State system, was 3,643, with 253 miles under construction. The interlocking system of signals is being installed and an electro-pneumatic installation was completed at Sydney. This system carried 53,644,271 passengers and there were no accidents or casualties during the year.

The Victoria State Railways have an open line of 3,544 miles including 81 miles added during the year and 124 miles under construction.

BRITISH LOCOMOTIVES FOR THE SHANGHAI-NANKING RAILWAY.—A description of the four locomotives built by Messrs. Kerr, Stuart & Company, Ltd., of Stoke-on-Trent, for this company has been received. The drivers have a diameter of seven feet; the wheels of the bogie are three feet, six inches, and pair of trailers four feet nine inehes in diameter. The cylinders are 18 inches, stroke 26; the boilers are 12 feet 10½ in length with a diameter of 4 feet 9½ in., its center line pitched at 9 feet above rail level. Each boiler has 188 tubes of 2¼ in external diameter and a heating surface of 1,650 square feet is provided so as to utilize the coal available. They are fitted with Westinghouse brakes. Among the other auxiliaries provided, are Vacuum Oil company's lubricators, Laycock's steam heater and Holden & Brooke's injectors. The tenders have each 10 ton fuel space and capacity for 3,500 gallons of water. The dead weight of each engine is 50 tons and the tender 19 tons 9 cwt.; working, the total for engine and tender is 98 tons, 14 cwt.

F. M. S. RAILWAY SUPPLIES.—The railway bureau has been authorized to expend $152,600 in further equipping the line for the proposed night service between Singapore and Penang. The expenditure will include $106,000 for additional rolling stock, $34,400 for two buffet cars and $12,200 for fitting the coaches with electric light and fans.

to instal a twenty stamp mill on the property and that the shareholders turn over 20% of their stock to be placed on the market to cover the expense. The following directors for the newly incorporated company which took over the old partnership interests were: Judge F. B. Ingersoll, Robert Lienau, Eduardo Soriano, Geo. C. Sellner, and Captain Wilson. Geo. C. Sellner was elected president, Judge Ingersoll, vice-president, and Robert Lienau, secretary-treasurer.

THE MAJOR MINES.—This company which has been active in the development of property near Baguio is preparing to instal a hydro-electric generating plant on one of the streams in that locality. It is expected to develop 1500 h. p.

BATAN COAL MINING CO.—President Daniels went to Hongkong the latter part of October for the purpose of purchasing two colliers for his company.

THE NUEVA ECIJA FIELDS.—A movement is on foot among the different owners of property on the Chica to organize a holding company with a view to comprehensive development. The preliminary steps have been taken and the owners of several thousand acres have signified their approval. A survey is now under way.

New Zealand capital is negotiating for several properties in the Nueva Ecija field and we understand that the Cebu company is concluding arrangements for the installation of machinery on its property.

PHILIPPINE OIL.—Prospecting work on the Tayabas oil field continues and a report on the work is expected in a short time.

Prospectors from the vicinity of Sual, a port on the coast of Pangasinan province, report the presence of oil deposits in that vicinity. Their extent is unknown and little testing work has been done.

THE LEPANTO COPPER.—News has just been received from these extensive deposits that on the Chamber's group a large body of ore has been uncovered during the month. These deposits are near the old Spanish mine. Work has been in progress on this group for several years, but persistent effort has been rewarded in a substantial way. This report removes all doubt as to the extent and value of these outlying deposits and further work, we understand, will be expedited.

## PERSONAL

Mr. William B. Poland, chief engineer and general manager of the Philippine Railway Company, sailed from Manila, November 13, for the United States on leave. Mr. Alexander Strausz, jr., auditor for the company, will be in charge as acting general manager during Vice-President Poland's absence.

Mr. A. W. U. Pope, general manager of the Shanghai-Nanking Railway, is enjoying a furlough in England and just before his departure he was the guest of the Chinese Chamber of Commerce at a dinner given in his honor at Mr. Chew's Garden, October 25. He was later presented with a handsome silver bowl by the railway staff and half dozen gold and tortoise shell pieces to support the center piece for Mrs. Pope. A small silver bowl was added as a recuerdo by the members of the Chinese Staff. Taotai Chung Mun Yew, the Director General, made the presentation. Mr. Pope proceeded via the Trans-siberia route.

KOREAN CONSTRUCTION.—The reconstruction of three tunnels, one of which is 400 feet in length, and the repair of a dozen bridges on the Seoul-Wiju line will be completed by the end of the year. Over 30% of the reconstruction program is reported complete.

The Seoul-Gesan survey was completed and construction work begun in September.

The Paju-Chinnampo line, 34 miles in length, was opened for traffic the first of the month.

The construction work on the Honan line was undertaken in September on the section between Taiden and Renzan.

THE FUKIEN RAILWAY.—The company expects to open the line to traffic to the southern bank of North River from Amoy by the Chinese New Year.

ANOTHER SOUTH CHINA LINE.—A project has been under way for some time to construct a railway from Chao-Chowfu via Kit-yang Puning, Hui-lai, Lu-fung, Hai-teng and Tan-Shui to connect with the Kowloon-Canton line at Shen-Chun covering a distance of 600 li. A Chinese company, with a capital of $10,000,000 gold, was organized about a year ago and it is understood interest in the project was recently revived.

WIDENING JAPANESE GAUGE POSTPONED.—The Railway Bureau has decided to postpone the expensive program of widening the gauge to standard for the reason that it would take many more millions than are available for annual expenditure and the country in many sections is sadly in need of new lines and securing better facilities to these districts is of greater importance to the country.

PHILIPPINE GOVERNMENT ARCHITECT'S REPORT.—During the year ended June 30, 1910, this office prepared plans covering 175 projects with an estimated cost of ₱7,310,000. In the development of the Burnham plans for Manila, parking the moat is to be continued between Calle Palacio and Victoria to provide two baseball diamonds, a foot-ball field and six tennis courts.

GOVERNMENT WHARVES, PENANG.—During the year 245 feet extension at the northern end was practically completed and the southern extension is progressing very favorably. When finished there will be a total length of 1200 feet alongside.

DERHAM SHIPPING AND WAREHOUSE CO.—This firm has secured a site for a large warehouse on the new harbor, Manila, and will construct a two-storey building 250 by 100 feet, between the two large piers. The warehouse section is to occupy the first storey and will be divided into chambers for receiving and delivering goods. The second storey will be divided into offices. The building will cost ₱160,000. The plans were designed by the Eastern Engineering Co. and the Manila Construction Co. has the contract. It will be built of reinforced cement and guaranteed fireproof.

KUALA LUMPUR WATERWORKS.—The total estimate for this extension project amounts to $800,000, Straits Cur., of which $140,000 will be spent this year.

LOCOMOTIVES FOR JAPAN.—The Railway Board has authorized the importation of 66 locomotives of German, British and American manufacture during the year. Sixty of these will be for passenger service and six for freight.

WHITE ANTS INVADE JAPAN.—The Railway Board is greatly agitated over the general attack made by white ants on the railway sleepers on the Kyushu line, especially the soft woods. As the result of an investigation it was found that the pest did not thrive in the sunshine.

OBITUARY.—News has been received from New York announcing the sudden death of Sir Clifton Robinson, the well known British railway expert. It is understood that he was in New York to confer with the Speyer interests with a view to extending railway operations in the Philippines.

BANGKOK WATERWORKS CONTRACT.—The contract for the supply of cast iron pipes, joint bolts and rubber rings for joints was awarded the Société Anonyme des Hauts Fourneaux et Fonderies de Pont-à-Mousson, the prices offered were pipes, $32.85 gold per ton; joint bolts, $9,27 per 100 kilos, and rubber rings, $295 per 100 kilos. The other bidders were Macfarlane, Strang & Co., Glasgow, and the Société Métallurgique du Périgord.

# FAR EASTERN ENGINEERING, CONSTRUCTION, COMMERCIAL AND FINANCIAL NEWS

## ELECTRIC LIGHT, POWER, TELEGRAPHS, TELEPHONES, AIRSHIPS, AUTOMOBILES, ETC.

ELECTRIC HEATING AND COOKING APPARATUS FOR SHANGHAI.—The Electricity Department has ordered twelve "cookers" from Messrs. Jardine Matheson & Co., eight ovens, and twelve combined ranges and grills from the Shanghai Electric & Asbestos Company together with 20 therol water heaters from the former firm. All this apparatus will be available for hire.

THE TOKYO RAILWAY EXTENSION.—Of the 119 miles of this project, 55 miles were to have been completed this year, but up so far only six miles are finished and an extension has been asked for.

PERSONAL.—Mr. Alexander Bell, the inventor of the telephone and promotor of aviation, paid a visit to Far Eastern ports last month.

TELEFUNKEN WIRELESS.—Permission has been granted the Telefunken Company of Berlin to instal stations in the Philippines to demonstrate the effectiveness of its system. Messrs. Germann & Co., Ltd., are the agents in the islands. This company installed a station at Yap and with the Philippines station connection would be completed between Australia and Eastern Asia.

MANILA AUTOMOBILE CLUB.—The owners of automobiles in Manila have organized a club and incorporated under the laws of the islands.

PERSONAL.—Mr. C. B. Graves, general manager of the Manila Electric Railroad and Light Co., is expected to return to the Philippines in December.

SHANGHAI TRAMWAYS.—The report of the Société des Tramways et Eclairage Electrique de Shanghai for the last financial year, says the "Electrical Review," shows a profit of £3,916, which is being devoted mainly to depreciation, leaving a small balance to be carried forward.

ELECTRICITY DEPARTMENT, SHANGHAI.—The report of Mr. T. H. U. Aldridge, Electrical Engineer, for the half year ended June 30 shows a profit of Tls. 47,721. The following comparative table is submitted:

| | June 1909 | June 1910 |
|---|---|---|
| Total lamps connected | 182,141 | 198,572 |
| Motors H. P. | 653 | 955 |
| Units Generated | 481,962 | 561,757 |
| Units sold and accounted for | 425,609 | 498,544 |
| Private Lighting | 192 493 | 216,756 |
| Public Lighting | 44,814 | 54,316 |
| Power | 19,580 | 39,989 |
| Traction | 148,938 | 163,773 |
| Used at Works | 19,784 | 23,710 |
| Ratio | 88 31 | 90.53 |
| | lbs. | lbs. |
| Coal per unit generated | 5.38 | 5.13 |
| Coal per unit sold | 6 09 | 5.78 |
| Revenue | Tls. 37,299 | Tls. 42,903 |
| Expenditure | 35,657 | ,, 38,041 |
| Profit | 1,642 | ,, 4,862 |
| Total profit to date | 31,278 | ,, 47,721 |

NEW JAPANESE AEROPLANE.—Baron Iga is reported to have perfected a new model and proposes engaging in manufacturing aeroplanes for the market. Details of its construction are lacking.

JAPANESE WIRELESS.—The training ship Taisei Maru is to be equipped with apparatus and orders have been issued to have the Kasado Maru and the Sanuki Maru on the Formosan line similarly provided.

THE FUSAN-TSUSHIMA CABLE.—A report has been received to the effect that the Japanese Department of Communications have purchased this line from the Great Northern Telegraph Company. This cable is 60 miles long and was the last foreign cable operating in Japanese waters. The price paid is said to have been yen 150,000.

JAPANESE NAVAL BIPLANE.—Chief Naval Constructor Usioku is reported to have invented a machine equipped with hydroplanes, so as to be able to descend to the surface of the water and rise therefrom.

THE EASTERN TELEGRAPH CO., LTD.—The Eastern Telegraph Company, Limited, announce the payment on Oct. 15 of dividend at the rate of 3½ per cent. per annum, less income tax, on the preference stock of the company for the quarter ending Sept. 30, 1910, and the second quarterly interim dividend of 1¼ per cent. on the ordinary stock, free of income tax, in respect of profits for the year ending Dec. 31, 1910.

MILITARY WIRELESS FOR THE PHILIPPINES.—The latest model for field service received by the Chief Signal Officer of the Division consists of two chests which may be packed on one mule. It can be set up in fifteen seconds and has a practical working radius of fifteen miles.

JAPANESE ELECTRIC COMPANIES.—The first general meeting of the Katsura-gawa Hydro-Electric Company and the inaugural meeting of the Electric Apparatus Co. were held the latter part of October. It is the purpose of the two companies to amalgamate later with a joint capital of Yen 8,000,000.

ELECTRIC MACHINERY TRADE IN CHINA.—Mr. W. P. Ker, Commercial Attaché at Peking, states in his report that during the year 1909 contracts were given out for new electric light installations at Chungking, Chengtu, Changsha, Nanking, and Ningpo, and for more or less important extensions at Shanghai (settlements and native city), Hankow, Peking, Swatow, Mukden, and other places. Negotiations were proceeding at the beginning of 1910 for a large installation at

THE CHINESE EASTERN RAILWAY.—In the budget for 1910 the deficit amounted to 550,000 roubles, but the prospect for 1911 is brighter and net receipts amounting to 300,000 roubles are anticipated.

THE CANTON-HANKOW RAILWAY.—Advices from Peking announce the transfer of Mr. Hsi Si Tsung, assistant director of the Peking Mukden line, to be assistant director of this line.

THE BURMA RAIWAYS.—The total earnings for the half year amounted to Rs. 36,09,999, an increase of Rs. 1,15,440 over the corresponding term 1909.

SOUTH MANCHURIA AND KIRIN-CHANGCHUN RAILWAYS.—An agreement has been concluded providing for connections between these two lines. All passengers from the Kirin-Changchun line will be made at the South Manchuria station and freight at the depot of the new line except for transfer to western and northern points over the Chinese Eastern. The Kirin-Changchun company agrees to undertake the construction of the joint sidings and connecting tracks between the terminal points, half the expenditure to be chargeable to the South Manchuria Railway.

YUNNAN-BURMA RAILWAY.—The construction of this connecting line by the Chinese and the British is being promoted, the former to construct the southern section and the latter the northern. It is proposed to have the line connect with the French line in Annam.

HUKUANG RAILWAYS.—Viceroy Jui Cheng has proposed the construction of a circular railway to include Changsha, Changte and Chengchou, one line from Changte to Jungchun, another from Changte to Hsiang-yang via Ichang with future extension to Kai-feng-fu together with another from Ichang to Yunning. He has memorialized the throne for approval of a foreign loan covering these projects.

SOUTH MANCHURIA SERVICE.—Four trains a week from Dairen to Changchun were inaugurated the last of October. Trains leave Dairen at 6 p. m. Sunday, Tuesday, Thursday and Saturday arriving at 9:55 the following day at Changchun and leaving the latter point for the south at 7 a. m. Tuesday, Thursday, Saturday and Sunday.

HANKOW-SZECHUAN RELIEVES JAPANESE ENGINEER.—A report from Hankow is to the effect that Chief Engineer Hayashi has retired and that of 50 Japanese engineers formerly employed none are now associated with the line.

PROFITS OF CANTON-HANKOW BRANCHES.—The Kwantung division of this line will receive 30 per cent of the profits of the Samshui branch operated by the Three Provinces. The largest profits heretofore were $50,000 for one year, but they are expected to double during 1910.

KIRIN-CHANGCHUN CONSTRUCTION.—It is expected that construction trains will be introduced on the first 35-mile section from Changchun in April of next year. The earthwork is now well up and the work will be expedited all along the line as soon as the snow goes out so that trains will be operating by autumn.

THE SEOUL-WONSAN RAILWAY.—The Railway Board of Japan has completed plans for this line and the contract for the section between Yongsan and Ohongyangli is reported to have been let.

CHEKIANG RAILWAY.—The latest and the Chekiang situation is to the effect that the Board of Communications proposed taking over the shares of the company at 30% discount but this the shareholders refuse to consider.

RAILWAY LOANS.—Alterations proposed to the original form of the loan agreement for the Canton-Hankow Railway by the Vice-President of the Board of Communications have been refused by the foreign groups.

THE MANILA RAILWAY SOUTHERN LINES.—On the Noveleta-Naic branch the track has been laid to Santa Cruz River and as soon as bridge is finished traffic will be started to Santa Cruz de Malabon. The grading has been practically completed to Naic. *Batangas Extension.*—The line was open to Lipa in October and extended to San Jose this month. The Lucena line has been graded to Alaminos and grading San Pablo.

The Calamba-Santa Cruz de Laguna Branch was opened some time ago to Bay, the final location has been made to Magdalena and construction is progressing favorably.

Hangchow and for installations in several cities in Manchuria. Indeed, there may be said to be an electric lighting project in every city in China (although at Pakhoi the project is stated to have been abandoned in view of the successful introduction of incandescent gas mantles); the only difficulty is to find funds for carrying such projects into execution. Almost all contracts require to be financed by the contractors, and British firms, finding British manufacturers unwilling to supplying plant except for cash down, have sometimes co-operated with German firms, the latter arranging the finance in return for being allowed to participate. Thus several of the contracts mentioned above are for British engines and boilers and German dynamos. Payment is generally spread over a period of two or three years on proper security being given.

In further illustration of the progress in electrical works it may be mentioned that an electric tramway scheme for Canton is under contemplation, that a considerable extension of the telephone system in that city has recently been carried out, and that preparations are being made for inaugurating telephone services at Chengtu, at Wuhu, and in the provinces of Kiangsi and Chekiang.

## PUBLIC WORKS, DOCKS, WHARVES, BUILDINGS, ETC.

Hongkong's Typhoon Shelter.—The contract has been let for the construction of a breakwater to provide a harbor of refuge for Hongkong's shipping. This breakwater will extend 3 300 feet from a point near the Asiatic Petroleum Co.'s tanks at Tai-Kok-Tsui to a point opposite the Yau-ma-tei police station with an opening at one end of 400 feet. Its total height will be 53 feet and its width about 200 feet. The contract price is approximately $2,000,000 Mex.

Chinese Powder Magazines.—General Yin Chang has recommended the construction of a large magazine at Tientsin or Shanghai.

Building Construction in Manila.—The three-storey reinforced concrete building constructed by the Elks' Club was ready for occupancy Thanksgiving Day. This building cost about ₱200,000 and will make one of the most modern Clubs in the City.

Japanese Harbours.—The Home Minister referring to the development of harbours is quoted as follows:

"The bays and harbours in Japan which require investigations total 700 in all. Out of these such harbours as Yokkaichi, Shiobara, etc., have been already duly investigated; but those of Noshiro, Funakawa, Sakata and others in Akita and Yamagata prefectures still remain to be studied. The Government intends to bestow special care in investigating the harbours of Miyako, Kamaishi, Kuji, Nobechi, and Aomori, etc., and to adopt the best method of improving them; yet this project will not be put into practice until the investigations made into the status of all the harbours and bays is complete.

Mindanao Public Works.—The Legislative Council has appropriated ₱44,991.45 for public improvements including for construction of roads and bridges ₱27,656.45, construction and repair of buildings ₱5,135 and the balance for miscellaneous items.

Hainan Public Works.—The proposed improvement of the port of Haihow which has been agitated for several years has not been materially advanced. The shipping trade with Wenghang has lacked encouragement to the expense of landing goods. It is estimated that an expenditure of Tls. 500,000 would cut a channel large enough to accommodate launches from the present anchorage to the port proper through the mud flats.

Muroran Harbor Improvements.—The plans for this harbor include the construction of embankments covering a distance of 2200 feet on the west end of the city with another 3,000 feet long directly opposite on the other side of the bay. Between these two embankments a channel 1300 feet wide will be dredged and a railway pier with a frontage dredged to receive ocean liners alongside.

Punjab Irrigation.—The main canals have a mileage of 2,866, the branches, 1,629, and the distributing canals total 12,384 miles irrigating an area of 6,800,000 acres. The Lower Schenal Canal returned 22.5% on investment while the lowest return was 3.75%, making an average of 12.25% return in profits for the entire investment.

Philippine Public Works.—During the year ended June 30, 1910, a total of over ₱7,000,000 was expended in public improvements in the islands or over 25% of the total revenue of the government. Of this amount ₱5,288,028 for roads and bridges, ₱1,500,000 for public buildings; ₱171,000 for irrigation and ₱129,345 for artesian wells. The bureau has 1,171 regular employees, 456 Americans and 715 Flilipinos, regularly employed.

West River Flood Canal.—The balance of Tls. 200,000 available for famine relief will probably be expended in providing a canal from Shiuhing to Ngaimun by way of Sanning, thus relieving the lands liable to damage from floods. Shiuhing is a point 20 miles above Samshui and the total length of the course provided will be about 65 miles.

The Singapore Budget.—The estimated revenue for the year 1910-11 is placed at $3,000,-000, Straits Cur.. and the expenditure $3,500,-oco. The rates as announced will be 12% on assessment with one per cent for education and three per cent for water supply. With the balances from 1910 there will be a surplus of about $80,000.

Baguio Improvements.—The Philippine Government proposes erecting a city hall, 80 cottages and two dormitories for officials and employees, a building for the Supreme Court; public baths, besides the construction of lagoons with a complete drainage system A system of drives and bridle paths has also been surveyed.

Nagoya Harbor.—The sum of yen 1,909,000 has been appropriated to carry on the work of extending the harbor. The original estimate was reduced from yen 3,000,000.

## SHIPBUILDING, MERCHANT MARINE, AND FISHERIES

The Philippine Steamship Co.—This new company recently organized inaugurated its new service with the sailing from Hongkong of the steamer Rubi, November 9. The Rubi and Zafiro, recently transferred to the American flag, will sail to Manila direct from Hongkong and will then proceed to Iloilo and Cebu returning to Hongkong via Manila. The service will include five round trips every two months.

Japan's Naval Activity.—It is announced that Japan has placed orders for warships in British yards owing to the activity in local yards. The additional allotment of yen 80,-000,000 is to be expended in meeting the expense of increasing the displacement of vessels planned under the regular program from 5,000 to 7,000 tons which would take yen 20,000,000 of this amount and the balance of yen 60,000,000 was to be spent in constructing a 25,000 ton battleship and a large armored cruiser.

Mindanao Pearling Industry.—The report of the Governor of the Moro province states that export of shell for the year ended June 30, 1910, was valued at P267,343.80, an increase of 82% compared with the year previous. Twenty three licenses were issued to boats carrying divers.

The Mexico Maru.—This vessel, constructed for the Osaka Shosen Kaisha by the Mitsubishi Shipyard at Nagasaki, was scheduled to sail from Yokohama, November 1, for Tacoma. She is of 6,200 tons and cost yen 1,200,000. Her sister ship, the Canada Maru, is expected completed by March, 1911.

Hokkaido Fisheries.—The production for the year was valued at yen 9,460,000 of which herring predominated with a value of yen 5,776 980. However, the catch of herring has gradually fallen off from an annual production of yen 10,500,000 in 1897. Change of current and the destruction of forests affecting the current of fresh water are charged with being responsible for driving the fish away from that section of the coast. There are 20,000 families engaged in the fishing industry at this point.

Black Bass in Benguet.—The Philippines Government has met with success in stocking the mountain streams during the last three years and experiments are proposed with a view to introducing the top minnow into insular bodies of water for the extermination of mosquitoes.

Hongkong Launching.—A steel launch, constructed at the yards of Messrs. W. S. Barley & Co., Kowloon, to the order of the Taku Pilot Co. of Tientsin, was successfully launched last month. The vessel is 54 feet long.

Korean Fishing Co.—This organization recently formed with a capital of yen 2,000,000 has been granted permission to establish 200 fishing stations in North Chosen and to open large fish markets at Wonsan, Shinpo, and Chongzin.

Japanese Otter and Seal Fishing.—Eleven vessels comprising the fleet of the Japan Pelagic Fishery Co. recently returned from the Northern waters, turned in ninety sea otters and 2,400 fur seals caught off Kamschatka, the Kuriles, Behring Sea, and Alaska.

Japanese Shipping.—The total number of vessels cleared at Japanese ports for 1909 was 24,754 with a tonnage of 39,682,950, including 19,972 steamers of 39,432,117 tons aggregate. Of the latter the Japanese steamers numbered 13,174 with a total tonnage of 19,-098,100. The export of silk was valued at yen 124,243,239 yen, an increase for the year of yen 15,634,187. There was an increase in cotton manufactures of yen 18,050,000 with a decline in imports from the United States and an increase of yen 21,426,272 in cotton goods.

## MINES, MINERALS, AND THE METAL TRADE.

Kansu Gold and Copper Resources.—Mr. Charles H. Hansen, writing for the *Mining Journal*, states that Kansu has untold wealth in gold and copper. Mr. Hansen is installing a complete copper smelting plant with a capacity of 50 ton daily for the Chinese Government about 100 miles west of Lanchowfu. The plant is supplied by Messrs. Fraser & Chalmers Ltd., and consists of a circular water-jacket furnace, three 1.50 ton convertor shells and a 10 ton refining furnace. There is an abundance of limestone, coal, iron and fireclay near the plant. He writes that the mines are within a radius of 80 miles and 1,000 tons of ore are already in stock at the smelter. Regarding gold deposits, Mr. Hansen states that there are numerous placers between the site of the smelter and the Tibetan border. Quartz runs from one to two and one half ounces to the ton and gravel from the river pans two grammes to the cubic yard. The Chinese will grant concessions for working gold but not for copper. A few stamp mill has been installed near the site of the copper smelter but both await a circulating pump before operations will commence.

**Japanese Mineral Products Trade.**—The total value of exports for 1909 was valued at yen 43,221,316 and the import yen 53,328,897 making a total trade of yen 96,550,213. The export included copper (ingots and slabs) yen 21,071,383, tin (ingots and slabs) yen 24,439; antimony yen 120,815; brass and yellow metal, yen 175,018; sulphur, yen 13,344; copper ore yen 642,756; zinc ore, yen 642,756; coal yen 17,297,139. The important imports were copper (ingots and slabs) yen 382,154; lead (ingots, slabs, etc.) yen 1,286,668; tin, yen 1,116,377; zinc, yen 1,885,463; iron and steel yen 26,-878,724; kerosene oil, yen 11,657,300; coal yen 1,090,735.

---

**Duff Development Convertible Debenture Stock.**—The issue of 250,000, six per cent for development in Kelantan was taken at par in London. An active policy has been outlined. The total output of gold last year from the four dredgers was 8.524 ounces and the gross profit £10,235. The results up to June 30 this year were most disappointing, the dredging operations showing a loss of £1,225 owing to their working on untested ground. One of the dredges had been moved to the Mengirri River property and showed paying results.

---

**Chinese Engineering and Mining Company.**—The annual general meeting of the shareholders of the Chinese Engineering and Mining Co., Ltd., was held in London, on the 28th October, when the Directors' Report and Accounts, for the financial year ending 28th February, 1910, were submitted. Following is an extract from Directors' Report:—

The net result of the year's transaction shows a balance to the credit of Profit and Loss Account of £202,010 made up as follows:

| | | |
|---|---|---|
| Net profit, after providing for all charges in China | | £243,298 |
| Add balance brought forward from last year | £1,435 | |
| Gross receipts in London | 605 | 2,040 |
| Total | | £245,338 |
| Deduct Expenses in Europe | £ 6,205 | |
| Debentures, interest | 23.873 | |
| Debentures, redemption | 10,000 | |
| Directors' fees | 3,250 | 43.328 |
| Leaving a net balance of | | £202,010 |

Which the Directors recommend should be appropriated as follows:

| | |
|---|---|
| In placing to Reserve for Depreciation (making a total Reserve of £245.000.) | £ 30,000 |
| In paying a final dividend of 1s. 6d. per share (free of tax), yayable 2nd Nov., 1910 | 75,000 |
| Making a dividend of 15 per cent. for the year with the interim dividend of 1/6 per share paid on 1st May, 1910 | 75,000 |
| Directors' percentage on profits in accordance with the Articles of Association | 7,058 |
| Income Tax | 9,940 |
| And carrying forward | 5.012 |
| | £202,010 |

---

**The Oriental Consolidated Mining Company.**—The output of this plant for the year amounted to $1,700,000 gold. The company has 450 stamps and has been operating 15 years.

---

**Personal.**—Mr. R. Y. Hanlon, an American mining engineer who has been engaged in expert work in Korea for four years, has decided to establish himself in the Philippine Islands.

---

**The Peking Syndicate.**—The total output of coal for September amounted to 31,600 tons.

---

**Western Australian Mines.**—The total value of the mineral output for 1909 was valued at £7,059,052, a falling off of £185,000. The decrease in gold output was £233,600 and in tin £17,638. The increase in copper was £47,553 and in coal £15,270. The value of the yield in gold amounted to £6,776,275; copper, £104,650; tin £65,959. The six collieries of the state provided an output of 214,302 tons.

---

**Sungei Raia Tin Mines of Perak.**—The report for the six months ended July 31 shows an output of 1771 piculs valued at $71,644 (Straits Cur.). Chinese coal has superseded the Welsh anthracite for fuel at a saving of $5 per ton.

---

**Gold in Kwantung.**—Near the northern boundary of the peninsula the Japanese claim to have discovered rich gold and silver deposits covering an area of 5,000,000 square yards. The ore is said to show very high values. Samples showing several thousand dollars to the ton in gold and placer values in the streams are also reported. A thorough investigation has not been concluded, but the Japanese interested have applied for a franchise to develop the deposits.

---

**Burma Mines Ltd.**—The production for September is represented by 571 tons of lead containing 2855 ounces of silver. 561 tons were shipped and 36 tons sold locally.

---

**Siamese Coal.**—The coal deposits in Bandorn are said to be lignite and cover a large area. Their development is being considered.

---

**Eastern Petroleum Co. Ltd.**—At a recent meeting at Singapore this company decided to undertake active development of their large concessions covering 44,000 acres of oil bearing lands in Java. An assessment of $40 a share was authorized.

---

**The Fushun Coal Mines.**—The output for the year is estimated to reach 800,000 tons and it is expected to reach 1,000,000 annually when the Togo mine is developed to its fullest capacity. Of this output the South Manchuria Railway uses one-third; one-third is utilized by factories and steamers locally; 30,000 tons go to Harbin and the balance is shipped to foreign countries.

---

**F. M. S. Tin Exports.**—For the nine months ended September 30, 107,000 piculs of tin and 415,610 piculs of tin ore were exported from the F. M. S., a decrease of 17,723 piculs compared with the corresponding period, 1909. These figures do not include Pahang.

---

**The Kamuning Tin Company.**—An interim dividend of 15% has been authorized.

---

**The Hangyang Iron Works and the Han-Yueh-Ping Iron and Coal Co. Ltd.**—The output of the Ta Yeh mines for 1909 was 306,000 tons magnetic iron ore and 1,500 tons of manganese ore. The Hangyang Iron Works produced 74,000 tons of pig iron and shipped a total of 16,800 to Shanghai and Chinese ports, 23,700 to Japan and 3,800 to America. A total of 28,500 tons of steel rails and fastenings were supplied the Chekian-Kiangsu, Fukien, Canton-Kowloon, Tientsin-Pukow, Yueh-Han and Peking-Hankow. The output of the Pingsiang Colliery amounted to 520,000 tons of which 106,000 tons were coking coal for the Hanyang Iron Works.

---

**F. M. S. Tin Output.**—The ouput for September amounted to 11,123 piculs. During October tin was quoted at $80 (Straits Cur.) the highest price for the year.

---

**Japan's Steel Industry.**—The Wakamatsu Steel Foundry in Kyushu is at present the only establishment of the kind in this country, says the *Chamber of Commerce Journal*. A decade ago, when the Foundry was established at Wakamatsu, the output did not exceed 50,000 tons annually. The Foundry is at present turning out 300.000 tons of steel of various descriptions. Japan now imports steel to the value of Y. 50,000,000, in addition to machinery, etc., amounting in value to Y. 50,000,000, making a total of Y.100,000,000.

## FINANCIAL, COMMERCIAL AND MISCELLANEOUS.

**Newly Organized Japanese Companies.**—The total capitalization of new companies organized during the first eight months of this year is represented by Yen 176,250,000 according to financial reports. Of this over 62,000,000 has been added to manufacturing enterprise while yen 42,000,000 has been invested in railways. Electrical enterprises come next with a capitalization of 27,500,000 followed by mining, 15,250,000.

---

**Saghalien Turpentine Industry.**—The British Consul at Hakodate reports that the Japanese government has shipped machinery to Saghalien for the purpose of developing this industry in the island.

---

**Japanese Flood Funds.**—The Home Department has advanced Yen 1,730,000 to the eight prefectures suffering from flood damage to aid them in repair work. Interest is charged at the rate of 4.2% per annum.

---

**Russo-Asiatic Bank Amalgamation.**—The amalgamation of the Russo-Chinese Bank and the Banque du Nord under the style of the Russo-Asiatic Bank was made effective from October 17.

---

**Beet Sugar in Manchuria.**—The Fu Hwa Sugar Manufacturing Company is establishing a beet sugar factory at Harbin which will have a daily capacity of 140 tons. Over 4,000 acres owned by the company have been planted in beets. The company is capitalized at $630,000 gold.

---

**Japan's Budget.**—The approved draft of the budget for 1911 is reported to provide for an expenditure of yen 530,000,000.

---

**China's Budget**—The following is the statement issued by the Board of Finance:

**Annual Receipts**

| | Tls. |
|---|---|
| Land Taxes | 48,101,346 |
| Salt and Tea Taxes | 46,312,255 |
| Customs Duties | 42,139,287 |
| Other Duties | 26,163,842 |
| Likin | 43,187,907 |
| Government Property Receipts | 46,600,899 |
| Contributions, | 5,652,333 |
| Miscellaneous Income | 35,244,750 |
| Public Loans | 3,560,000 |
| Total | 296,962,722 |

**Annual Expenditures**

| | Tls. |
|---|---|
| Administrative Expenditure including Civil List | 26,921,274 |
| Foreign Affairs | 4,001 308 |
| Civil Ministry | 22,460,761 |
| Financial Expenditure | 25,161,855 |
| Ceremonials | 799,797 |
| Education | 16,149,540 |
| Judicial | 6,835,325 |
| Military | 97,498,656 |
| Works | 5,087,394 |
| Communications | 56,703,263 |
| Goverment Property Payments | 7,696,361 |
| Payment of Foreign Debts | 51,640,952 |
| Frontier Defence | 1,239,908 |
| Public Loan Expenditure | 4,472,613 |
| Total | 333,058,364 |

---

**F. M. S. Rubber**—The returns for September place the output at approximately 540,000 pounds.

---

**Sugar Report of Iloilo.**—In Messrs. Figueras Hermanos shipping report for the Port of Iloilo for the year ending Sept. 30th, there were 160 steamers with a net tonnage of 236,012 cleared from that port against 114 with a net tonnage of 180,181 for the previous year. Of these vessels 75 were British, 37 Norwegian, Spanish 13, German 17, French 8, Japanese 2, Chinese 5, American 2, and Danish 1. The chief shippers were Messrs. Ker & Co., with 520,000 piculs of sugar while Messrs. W. F. Stevenson & Co., Ltd., followed with 266,400; Messrs. Warner Barnes & Co., Ltd., with 190,400; Messrs. Smith, Bell & Co., Ltd., with 158,000 and the Compañia General de Tabacos de Filipinas with 56,000 piculs. There were eight other shippers with a total of 123,936 piculs.

# FAR EASTERN STOCKS AND QUOTATIONS

*Courtesy of Messrs. Kadoorie & Co., Hongkong, November 4, 1910.*

| STOCK. | WHEN ESTABLISHED | CAPITAL | NO. OF SHARES | VALUE | PAID UP | RESERVE | AT WORKING ACCOUNT | DATE | LAST DIVIDEND. | Approximate Yield per cent per annum at Present Quotation | CLOSING QUOTATIONS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **BANKS.** | | | | | | | | | | | |
| Hongkong & Shanghai Banking Corporation | 1865 | $15,000,000 | 120,000 | $125 | $125 | g £1,500,000<br>s $16,000,000<br>i $250,000 | $2,029,390 | 31-6-10 | £2. for first half year ending 30-6-10, @ ex 1\|9⅞ = $22.456 | 5% | $880<br>£86\|10 |
| National Bank of China, Ld. | 1891 | £699,475 | 10) 99,925 | £7 | £6 | c £4,009<br>$400,000 | $34,167 | 31-12-09 | $2 (London 3\|6) for 1903 | .... | $81 buyers |
| **MARINE INSURANCES.** | | | | | | | | | | | |
| Canton Insurance Office, Ld. | 1881 | $2,500,000 | 10,000 | $250 | $50 | $1,560,000<br>j $254,583<br>u $302,799 | Nil. | 31-12-08 | $15 for 1909 | 8½% | $175 buyers |
| North China Insurance Co., Ld. | 1903 | £'50,000 | 10,000 | £15 | £5 | g £125,000<br>s Tls. 225,000<br>u Tls. 368,644<br>f Tls. 137,308 | Tls. 205,719 | 30-6-10 | Final dividend of 7½% for 1909 making 15% in all | 5% | Tls. 110 sales |
| Union Ins. Society of Canton, Ld. | 1867 | $3,100,000 | 12,400 | $250 | $100 | s $3,000,000<br>g £90,000<br>f $287,984<br>j $1,449,735<br>u $713,985 | 2,552,545 | 31-12-09 | Final of $20 per share, making in all $50 per share for 1908, and an int. div. of $30 per share for 1909 | 6% | $840 sellers |
| Yangtsze Ins. Association, Ld. | 1889 | $1,200,000 | 12,000 | $100 | $60 | $1,000,000<br>j $371,802<br>$169,861 | $797,602 | 31-12-09 | $12 for year ending 31-12-08 and interim of $3 on account of 1909 | 7¾ | $195 sellers |
| **FIRE INSURANCES.** | | | | | | | | | | | |
| China Fire Ins. Co., Ld. | 1870 | $2,000,000 | 20,000 | $100 | $20 | $1,000,000<br>x $550,348<br>f $61,168 | $438,406 | 31-12-09 | $6 and bonus $2 for 1908 | 7% | $116 buyers |
| Hongkong Fire Ins. Co., Ld. | 1868 | $2,000,000 | 8,000 | $250 | $50 | $1,460,000 | $426,218 | 31-12-09 | $27 for 1908 | 8% | $350 sales |
| **SHIPPING.** | | | | | | | | | | | |
| China & Manila Steamship Co., Ld. | 1882 | $750,000 | 1) 30,000 | $25 | $25 | i $57,734 | Dr. $3,777 | 31-12-09 | $4% for 1906 | .... | $9 sellers |
| Douglas Steamship Co., Ld. | 1883 | $1,000,000 | 20,000 | $50 | $50 | $230,000<br>i $100,589 | Nil. | 30-6-10 | $2½ for year ending 30-6-1908 | .... | $21 sellers |
| Hongkong, Canton & Macao Steamboat Co., Ld. | 1865 | $1,200,000 | 80,000 | $15 | $15 | e $250,000<br>d. i. $630,000<br>f $130,545<br>$ 1 106 | $18,026 | 30-6-10 | Dividend of $1½ for half year ending 30.6.1910 | 8½% | $31½ sales |
| Indo-China Steam Navigation Co., Ld. (Preferred)<br>Do. Do. (Deferred) | 1882 m | £600,000 | 2) 60,000<br>2) 60,000 | £5 | £5 | i £148,891 | £15,162 | 31-12-08 | No dividend paid for last two yrs. | .... | $58 sellers |
| "Shell" Transport & Trading Co., Ld. | 1898 | £ 2,000,000 | 2,000,000 | £1 | £1 | £120,000<br>i £1,000,000 | £205,868 | 31-12-09 | Final div. of 2\|6 per share (coupon 14) making in all 4\|6 per share for 1909, and an int. div. of 1s. per share on % for 1910 | 5% | 82\|-<br>£11 buyers |
| "Star" Ferry Co., Ld. | 1898<br>1900 | $200,000 | 10,000<br>10,000 | $10<br>$10 | $10<br>$5 | $6,500<br>i $55,830 | $1,159 | 30-4-10 | A dividend of 7% and bonus of 5% making 12% for year ending 30.4.1910 | 5%<br>6% | $23<br>$12½ buyers |
| **REFINERIES.** | | | | | | | | | | | |
| China Sugar Refining Co., Ld. | 1878 | $2,000,000 | 20,000 | $100 | $100 | e $520,000<br>r $83,620 | Dr. $8,090 | 31-12-09 | $5 for half year ending 30-6-1910. | 6% | $145 sellers |
| Luzon Sugar Refining Co., Ld. | 1882 | $700,000 | 7,000 | $100 | $100 | none | Dr. $101,851 | 31-12-09 | $3 for 1897 | — | $24 |
| **MINING.** | | | | | | | | | | | |
| Chinese Engineering & Mining Co., Ld. | 1901 | £1,000,000 | 1,000,000 | £1 | £1 | d £215,000<br>h £12,289 | .... | | Final div. of 1\|6 for the year 1910 making 15% (coupon 15) | 9% | Tls. 16 |
| Headwaters Mining Co. | 1908 | ₱600,000 | 28) 600,000 | ₱10 | ₱10 | | | | First year | | ₱10 buyers |
| Raub Australian Gold Mining Co., Ld. | 1892 | £200,000 | 150,000<br>50,000 | £1<br>£1 | 18-10<br>£1 | £4,873 | Dr. .... | .. | 1\|2 per share, 13th div. | 5% | $6⅞ sellers |
| Oriental Consolidated Mining Co. Ld. | .... g | $5,000,000 | 500,000 | g $10 | $10 | none | .... | .. | Final of gold $0.65 for 1909 in all g. $1.15 | .. | 30\|- buyers |
| **DOCKS, WHARVES AND GODOWNS.** | | | | | | | | | | | |
| Fenwick (Geo.), & Co., Ld. | 1889 | $450,000 | x 18,000 | $25 | $25 | $25,275 | Dr $8,460 | 31-12-09 | $1⅞ for year ending 31-12-06 | .... | $9 sellers |
| Hongkong & Kowloon Wharf & Godown Co., Ld. | 1886 | $3,000,000 | 60,000 | $50 | $50 | $550,000<br>t $31,993<br>s $40,000 | $4,848 | 31-12-09 | $2½ for 1909 | 4½% | $57½ |
| Hongkong & Whampoa Dock Co., Ld. | 1866 | $2,500,000 | 50,000 | $50 | $50 | i $88,214<br>v $221,000 | $148,940 | 30-6-10 | 3% for half year ended 30-6-1909 | .. | $48 buyers |
| Shanghai Dock & Engin'g Co., Ld. | 1906 | Tls. 5,570,000 | 13) 55,700 | Tls. 100 | Tls. 100 | Tls. 1,000,000 | .... | .. | Final of Tls. 3½ making Tls. 6 in all for year 30-4-1910 | 8% | Tls. 72 |
| Shanghai & Hongkew Wharf Co., Ld. | 1902 | Tls. 3,600,000 | 36,000 | Tls. 100 | Tls. 100 | b Tls. 697,257<br>r Tls. 50,000<br>e Tls. 125,000 | .... | .. | Interim of Tls. 3 for 1910 | 7 | Tls. 100 sellers |
| **LANDS, HOTELS AND BUILDINGS.** | | | | | | | | | | | |
| Anglo-French Land Investment Co., Ld. | 1906 | Tls. 2,500,000 | 3) 25,000 | Tls. 100 | Tls. 100 | Tls. 35,000 | Tls. 4,314 | 29-2-09 | Tls. 6 for year ending 29-2-10 | 5⅞ | Tls. 97 sellers |
| Central Stores, Ld. | — | $751,845 | 16) 50,123 | $15 | $15 | n. $1,000 | $1,000 | 31-12-08 | 8% for 1909 | .... | $12½ sellers |
| Hongkong Hotel Co., Ld. | 1866 | $600,000<br>$400,000 | 12,000<br>8,000 | $50<br>$50 | $50<br>$25 | $648,975<br>r $20,000 | $21,477 | 30-6-10 | $3 on old shares, $1.50 on new shares, for half year ending 30-6-10 | 5½% | $97 sellers<br>$70 sales |
| Hongkong Land Investment & Agency Co., Ld. | 1889 | $5,000,000 | 50,000 | $100 | $100 | e $250,000 | $27,971 | 31-12-09 | Interim of 3½ for 1910 | 7% | $98½ buyers |
| Humphreys' Estate & Finance Co., Ld. | 1887 | $1,500,000 | 150,000 | $10 | $10 | i $226,945<br>20) $25,856 | $5,471 | 31-12-09 | 45 cents for 1909 | 5⅞% | $7 sellers |
| Kowloon Land & Bldg. Co., Ld. | 1889 | $300,000 | 6,000 | $50 | $30 | none | $269 | 31-12-09 | $2½ for 1909 | 8% | $33 buyers |
| Shanghai Land Investment Co., Ld. | 1888 | Tls. 3,900,000 | 78,000 | Tls. 50 | Tls. 50 | Tls. 1,523,045<br>e Tls. 300,000 | Tls. 63,969 | 31-12-09 | Interim of Tls. 3 for 1910 | 6⅞ | Tls. 110 sales |
| West Point Bldg. Co., Ld. | 1889 | $625,000 | 12,500 | $50 | $50 | none | $1,958 | 31-10-09 | Interim of $1.80 for 1910 | 8⅞ | $39 sellers |
| **COTTON MILLS.** | | | | | | | | | | | |
| Ewo Cotton Spinning & Weaving Co., Ld. | 1895 | Tls. 1,000,000 | 5) 20,000 | Tls. 50 | Tls. 50 | Tls. 250,000 | Tls. 10,991 | 31-10-09 | Tls. 11 for year ended 31-10-09 | 8½ | Tls. 90 sellers |
| Hongkong Cotton Spinning, Weaving & Dyeing Co., Ld. | 1901 | $1,250,000 | 125,000 | $10 | $10 | e 20,000 | $26,297 | 30-7-09 | 50 cents for year ending 31-7-08 | .... | $3½ buyers |

# FAR EASTERN STOCKS AND QUOTATIONS—(Continued.)

| Stock. | When Established | Capital. | No. of Shares. | Value. | Paid Up. | Reserve | At Working Account. | Date. | Last Dividend. | Approximate Yield per cent. per annum at Present Quotation. | Closing Quotations |
|---|---|---|---|---|---|---|---|---|---|---|---|
| International Cotton Manufacturing Co., Ld. | 1895 | Tls. 750,000 | 6) 10,000 | Tls. 75 | Tls. 75 | Tls. 175,000 | Tls. 8,372 | 30-9-09 | Tls. 7½ for year end. 30-9-09 (10%) | 10% | Tls. 51 |
| Laou-kung-mow Cotton Spinning & Weaving Co., Ld. | 1895 | Tls. 800,000 | 8,000 | Tls. 100 | Tls. 100 | none | Tls. 4,829 | 31-12-08 | Tls. 6 for 1909 | 10% | Tls. 50 sellers |
| Soy Chee Cotton Spinning Co., Ld | 1895 | Tls. 1,000,000 | 2,000 | Tls. 500 | Tls. 500 | Tls. 31,173 | Tls. 31,173 | | Tls. 35 for 1909 | 17% | Tls. 250 sales |
| **MISCELLANEOUS** | | | | | | | | | | | |
| Bell's Asbestos Eastern Agency, Ld. | 1895 | £5,377.10s. | 11) 8,604 | 12/6 | 12\|6 | £1,500 | £797 | 31-12-09 | 15% for 1909 | | $8 sellers |
| China-Borneo Co., Ld. | 1903 | $720,000 | 8) 60,000 | $12 | $12 | $40,000 | Nil. | 31-12-08 | 5% for 1909 | 6½ | $9 |
| China Light & Power Co., Ld. / Do. do. Special Shares | 1901 / 1907 | $300,000 | 50,000 / 17) 50,000 | $5 / $1 | $5 / $1 | none | $50,242 | 31-7-10 | 60 cents for year ending 28-2-06 | | $1.10 sellers |
| China Provident Loan & Mortgage Co., Ld. | 1898 | a $1,250,000 | 7) 125,000 | $10 | $10 | $80,000 | $2,602 | 31-12-09 | 80 cents for 1909 | 10% | $7¾ buyers |
| Dairy Farm Co., Ld. | 1896 | $300,000 | 40,000 | $7½ | $6 | l $10,000 / $10,000 | $1,850 | 31-7-09 | $1.20 for year ending 31-7-09 | % | $17¾ sales |
| Green Island Cement Co., Ld. | 1897 | $4,000,000 | 400,000 | $10 | $10 | $14,000 | $4,290 | 31-12-09 | Interim of 15 cts. per share for 1910 | 15 | $3¾ buyers |
| H. Price & Co., Ld | 1907 | $120,000 | 19) 15,000 | $10 | $10 | none | $1,923.87 | 31-12-09 | 14% viz $1.40 for 1909 | 12% | $12 |
| Hongkong Electric Co., Ld. | 1889 | $600,000 | 60,000 | $10 | $10 | none | $11,798 | 28-2-10 | A dividend of $1.20 per share and a bonus of 10 cts. per share for year end. 28-2-10. | 6½ | $20 sellers |
| Hongkong Ice Co., Ld. | 1881 | $125,000 | 5,000 | $25 | $25 | k $150,000 | $12,662 | 31-12-09 | Interim of $2 per share for 1910 | .... | $135 sellers |
| Hongkong Rope Manufacturing Co., Ld. | 1883 | $600,000 | $60,000 | $10 | $10 | $40,000 | $9,176 | 31-12-09 | Interim of $1 per share for 1910 | 9 | $20 sellerss |
| Maatschappij tot Mijn-, Boschen Landbouwexploitatie in Langkat | 1902 | Gs 2,500,000 | 25,000 | Glds. 100 | Glds. 100 | 21 Tls 547,500 / Tls. 547,500 / f Tls. 63,914 | Tls. 316,682 | 31-12-08 | 3rd Interim Div. of Tls. 15 making in all Tls. 37½ for 1910 | 5 | Tls. 1150 buyers |
| Peak Tramways Co., Ld. / Do. (New) | 1907 | $750,000 | 25,000 / 50,000 | $10 / $10 | $10 / $10 | $20,000 | $3,014 | 30-4-10 | 80 cents on fully paid shares & 8 cents on $1 paid shares for year ending 30-4-10 | 5½ / 5 | $13 sellers / $1½ sellers |
| Philippine Co., Ld. | 1904 | $750,000 | 75,000 | $10 | $10 | none | Ps. 2,875 | 31-12-09 | None | .... | $8 |
| Robinson Piano Co., Ltd. | 1900 | $200,000 | 22) 4 000 | $50 | $50 | $5,000 | $61,138 | 31-8-08 | 6% for ½ year ending 30.9.07 | .... | $50 sellers |
| Shanghai-Sumatra Tobacco Co., Ld. | 1902 | Tls. 600,000 | 9) 30,000 | Tls. 20 | Tls. 20 | Tls. 24,820 / w Tls. 100,000 | Tls. 5,250 | 31-10-08 | No dividend this year | 2 | Tls. 102½ buyers |
| South China Morning Post, Ld. | 1903 | $150,000 | 6,000 | $25 | $25 | none | Dr. $31,096 | 31-8-09 | None | — | $24 |
| Steam Laundry Co., Ld. | 1902 | $100,000 | 20,000 | $5 | $5 | none | $127,86 | 31-5-10 | 50 cents for year ending 30-5-10 | 8 | $5½ sellers |
| Union Waterboat Co., Ltd. | 1905 | $500,000 | 15) 50,000 | $10 | $10 | w $11,956 | .. | 31-12-08 | 60 cents for year-end. 31-12-1908. | 6½ | $8 sellers |
| United Asbestos Oriental Agency, Ld. | 1896 | $100,000 | 10,000 | $10 | $4 | $46,000 | $471 | 31-5-10 | 15% per ordinary share for year ended 31-5-10 | 5 | $11½ sellers |
| Watkins, Ltd. | 1899 | $100,000 | 10,000 | $10 | $10 | none | $19,41 | 31-12-09 | 3½ for 1909 | ... | $3 sellers |
| Watson (A. S.) & Co., Ld. | 1886 | $900,000 | 90,000 | $10 | $10 | $300,000 / e) $25,000 | $1,776 | 31-12-09 | 3% for 1909 | — | $6½ sales |
| Weismann Limited | 1904 | $30,000 | 3,000 | $10 | $10 | $12,250 | $67 | 31-7-09 | 10 per cent for year endg. 31.7.08. | 10% | $12 buyers |
| William Powell, Ld. | 1901 | $105,000 | 15,000 | $7 | $7 | none | $782 | 30-6-09 | Final of 30 cents making 80 cents for year ending June 30th 1906 | .... | $2 buyers |
| Societe des Pulpes et Papeteries du Tonkin | | 660,000 | 13,200 | 50 Haiphong | 25 Currency | .... | .. | .... | First year | .... | $36 (Hk.Cy.) sel |
| **RUBBERS** | | | | | | | | | | | |
| Allagar Rubber Estates, Ltd. | 1909 | £85,000 | 29) 750,000 | 2\|- | 2\|- | .... | .... | .... | ............ | .... | 4\|6 |
| Anglo-Malay Rubber Co., Ltd. | 1905 | £150.000 | 1,500,000 | 2\|- | 2\|- | .... | .... | .... | 80% for year ending 31.12.09 | .... | 23\|9 |
| Balgownie Rubber Estate, Ltd. | 1905 †† | $200,000 | ‡‡ 20,000 | †† $1 | †† $1 | $7,400 | $11,205 | 31-3-09 | 40% interim | .... | $11 [Singapore] |
| Castlefield Rub. Ld., [fully pd.] | 1906 | £35,000 | 27) 32,650 | £1 | £1 | none | .... | .... | ............ | .... | 120\|- |
| Damansara (Selangor) Rub. Co. | 1906 | £110,000 | 25 110,000 | £1 | £1 | nil. | £2,220 | 31-12-08 | 50% for 1909 | .... | 152\|6 |
| Golconda Malay Rubber Co. | 1907 | £80,000 | 26 80,000 | £1 | £1 | nil. | nil. | — | 25% for 1909 | .... | 102\|6 |
| Highland & Lnd. Para R. Co. / Do. Do. [fully paid] / Do. Do. [partly paid] | 1906 | £310,000 | =181,454 / 123,546 | £1 / £1 | £1 / 15\|- | £8,784 | .... | .... | 35% for 1909 | .... | 102\|6 |
| Kamuning (Perak) Rb. & Tin Co. / do do A Shares / do do B Shares | 1909 | £200,000 | 950,000 / 105,000 | 2\|- / £1 | 1\|- / £1 | nil. | nil. | .... | ............ | .... | 5\|9 prem. |
| Kuala Lumpur Rubber Co., Ltd. | 1906 | £180,000 | 180,000 | £1 | £1 | £4,000 | 1,82 | .... | 30% for 1909 | ... | 160\|- |
| Linggi Plantations, Ltd. (ord.) / Do. Do. (7% pref.) | 1895 Reconst | £100,000 | ×900,000 / 10,000 | 2\|- / £1 | 2\|- / £1 | .... | .... | .... | 50% interim | — | 43\|9 |
| Ledbury Rubber Estates Ltd. / Do. Do. (contrib.) | 1908 | £125,000 | §§ 60,000 / §§ 40.000 | £1 / £1 | £1 / 7\|6 | .... | .... | .... | 17½% for 1909 | .... | 65\|- |
| Sagga Rubber Co. Ld. | 1903 | £20,000 | 24) 2,000 | £1 | £1 | nil. | nil. | .... | 25% for 1909 | .... | 270\|- |
| Sandycroft Rubber Co. | 1904 | $100,000 | 50,000 | $2 | $2 | $20,000 | $1,275 | 31.1 08 | 50% interim | .... | $25½ |
| Sekong Rubber Co., Ld | 1908 | £80,000 | 27) 80,000 | £1 | 12/6 | nil. | nil. | — | ............ | .... | 11\|3 prem. |
| Shelford Rubber State Ld. | 1906 | £65,000 | 65,000 | £1 | £1 | nil. | £836 | 31.12.08 | 7½% for 1909 | .... | 70\|- |
| Singapore & Johore Rb. Co., Ld. | 1903 | $250,000 | 2,500 | $2 | $2 | nil. | nil. | .... | 25% interim | .... | $12¼ |
| Sungei Choh. Rb. State Co., Ld. | 1907 | £45,000 | 45,000 | £1 | £1 | nil. | nil. | .... | ............ | .... | 90\|- |
| Sungei Kapar Rubber Co. | 1906 | £110,000 | 23) 110,000 | £1 | £1 | nil. | £3,448 | 31.12.08 | 37½% for 1909 | .... | 14\|- |
| Toerangie Rubber Co. | 1910 | 30) £100,000 | 51,000 | £1 | 7\|6 | .... | .... | — | First year | .... | 2\|- prem. |

| Loans and Debentures. | Agents for the Loan. | Amount of Loan. | Par Value. | Outstanding Bonds. | When Payable. | Closing Quotations. |
|---|---|---|---|---|---|---|
| China Government, 7 per cent. Silver Loan 1886 E | Hongkong & Shanghai Banking Corporation. | Tls. 767,200 | Tls. 250 | 1914 | Mar. 31st and Sept. 30th each year until Mar. 31st, 1917 | par. (Plus interest) |
| Hongkong Hotel Company, Ltd., 6 per cent. Mortgage Debentures of 1899 ‡ | Hongkong & Shanghai Banking Corporation. | $750,000 | $500 | § all | Half yearly, June 30th and December 31st | par (Plus interest) |
| Shanghai & Hongkew Wharf Company, Ltd., 6 per cent. Debentures of 1902 | Hongkong & Shanghai Banking Corporation. | Tls. 543,900 | Tls. 100 | ......... | Half yearly, June 30th and December 31st | Tls. 103½ (Plus interest) |
| Astor House Hotel Company, Ltd., 8 per cent. Debentures of 1903 | Hongkong & Shanghai Banking Corporation. | Tls. 500,000 | Tls. 100 | ......... | Half yearly, January 1st and July 1st | 102½ (Plus interest) |
| Chinese Engineering & Mining Co., Ltd., 6 per cent. Debentures of 1903 † | .......... | £500,000 | ¶ | £431,960 | Half yearly, June 30th and December 31st | par. (Plus interest) |
| International Cotton Manufacturing Co., Ltd. 7% Debentures of 1901 | Russo Chinese Bank | Tls. 500,000 | Tls. 100 | ‖ | Half yearly, March 31st and Sept. 30th | Tls. 97½. (Plus interest) |

a Authorized capital $2,000,000.
b Building Reserve Account.
c Capital Reserve Fund.
d Depreciation Fund.
e Equalization of Dividend Fund.
f Exchange and Investment Fluctuation Account.
g Gold Reserve Fund
h Exchange and Reserve Account.
i Insurance Fund.
j Reinsurance Fund.
k Contingencies Account.
l Legal Reserve Fund.
m Authorized Capital
n Sinking Fund.
o Raw Sugar Reserve Account.
p Premium on New Issue.
q Boiler Repairs and Renewals Account
r Repairs and Renewals Account.
s Silver Reserve Fund.
t Depreciation and Repair Account
u Underwriting Suspense Account.
v Special account
w Special Works Fund.
x Extra Reserve Fund.
y 72,560 owned by the Company.
z 7,200 shares unissued.
1 4,000 shares unissued.
2 First issue of 60,000, of which 10,411 unallotted.
3 5,000 shares unissued.
4 4,480 shares unissued.
5 5,000 shares unallotted.
6 1,616 shares unallotted.
7 75,000 shares unissued.
8 14,000 shares unissued
9 17,000 shares unissued.
10 40.453 shares actually issued.
11 7,688 shares actually issued.
12 4,200 shares unissued.
13 500 shares unissued.
14 399 shares unissued.
15 22,277 shares unissued.
16 10,000 shares unissued.
17 Special shares are entitled to half of the profits.
18 Capital contributed by Chinese Government-Kuping Tls. 5,000,000.
19 12,000 issued only.
20 Typhoon and Floods Insurance Fund.
21 Special Cash Reserve.
22 1000 shares unissued.
23 10,000 shares unissued.
24 4595 part paid shares.
25 7,500 shares unissued.
26 10,000 shares unissued.
27 2.350 shares unissued.
28 25,000 shares unissued.
29 10,000 shares unissued.
30) 3,700 fully paid vendor shares and an option of 5,000 shares at par for 5 years granted to option holders.
*Based on last year's dividend.
** Based on present dividend.
§ 216 held by the Company.
‖ Only Tls. 134,000 taken up.
¶ In certificates of £20 and £100.
‡ Redeemable in 10 years, or at option of Comp.. the Company giving 6 months notice.
† Redeemable at par at rate of £10,000 per annum from 31st December 1903 to 31st December 95.
*** Redeemable at par on 30th June, 1915.
Dr. Deficit.
†† Singapore dollars.
‡‡ 4,880 shares unissued.
× 16,756 shares unissued.
§§ 25,000 shares unissued.
4140 shares unissued.

# ADDITIONAL SHANGHAI SHARE QUOTATIONS

October 29, 1910

| STOCK | CLOSING QUOTATIONS | HIGHEST AND LOWEST PRICES DURING THE WEEK | CAPITAL | NO. OF SHARES | VALUE | PAID UP | RESERVE | LAST DIVIDEND | WHEN PAID |
|---|---|---|---|---|---|---|---|---|---|
| Vulcan Iron Works, Limited.... | Tls. 10 | | Tls. 500,000 | 1,000 | Tls. 500 | Tls. 500 | — | Tls. 50 for year ended 31.8.06...... | Nov. 1, 1906 |
| Yangtsze Wharf & Godown Co. Limited.......................... | Tls. 195 | | Tls. 250,000 | 2,500 | Tls. 100 | Tls. 100 | Tls. 50,000 | Tls. 15 for 1909.......................... | April 1, 1910 |
| Wei-hai-wei Land & Building Co., Limited.................... | Tls. 8 nominal | | Tls. 91,850 | 3,674 | Tls. 25 | Tls. 25 | — | Interim of $2.00 for 1909............ | Aug. 3, 1909 |
| Anglo-German Brewing Co., Limited.......................... | $80 sellers | | $100,000 | 4,000 | $100 | $100 | none | 5% for 1909.......................... | Mar. 12, 1910 |
| Butler Tile Works, Limited..... | Tls. 23 | | Tls. 60,000 | 1,200 | Tls. 50 | Tls. 50 | — | Tls. 3 for year ending 31.3.09...... | June 8, 1909 |
| Major Bros., Limited ...... | Tls. 40 | | Tls. 300,000 | 6,000 | Tls. 50 | Tls. 50 | — | —— | — |
| Oriental Ice Company, Limited. | Tls. 25 | | Tls. 130,000 | 2,600 | Tls. 50 | Tls. 50 | — | First year.......................... | — |
| Scharffs Oil and Bone Mills, Ltd. | Tls. 40 | | Tls. 200,000 | 4,000 | Tls. 50 | Tls. 50 | — | First year.......................... | — |
| Shanghai Ice Company, Limited. | Tls. 13 | | Tls. 200,000 | 8,000 | Tls. 25 | | — | 6 for 1909.......................... | Mar. 14, 1910 |
| Dunning & Company, Limited.. | $33 sales | | $100,000 | 2,000 | $50 | $50 | — | $5 year ending 28.2.08.............. | Apr. 15, 1908 |
| J. Llewellyn & Co., Limited..... | $60 nominal | | $72,000 | 1,200 | $60 | $60 | — | 7.20 for 1909.......................... | May 1, 1910 |
| Lane, Crawford & Company ..... | $120 | | $250,000 | 2,500 | $100 | $100 | — | 10% for year 1909.................... | Apr. 28, 1910 |
| S. Moutrie & Company, Limited. | $20 | | $250,000 | 5,000 | $50 | $50 | — | $2 for year ended March 31, 1909. | June 18, 1909 |
| Weeks & Company, Limited ... | $23 | | $400,000 | 20,000 | $20 | $20 | $40,000 | Final of 6% making 10% for 1909.. | June 1, 1910 |
| Dominion Rubber Co., Limited. | Tls. 30 | | Tls. 225,000 | 22,500 | Tls. 10 | Tls. 4 | — | First year.......................... | — |
| Senawang Rubber Estates Company, Limited................ | Tls. 50 | | Tls. 250,000 | 2,500 | Tls. 100<br>Tls. 100 | Tls. 100<br>Tls. 75 | — | 20% for year ending May 31 1910 ... | May 9, 1910 |
| Tebong Rubber and Tapioca Estate, Limited................ | Tls. 20 | | £76,000 | 76,000 | £1 | £1 | — | 50 cents for 1909.................... | Sept 2, 1910 |
| Shanghai Mercury, Limited ..... | Tls. 55 | | Tls. 105,500 | 2,100 | Tls. 50 | Tls. 50 | — | Final of 6% making 16% year 1909. | June 22, 1910 |
| Shanghai Mutual Telephone Co., Limited.......................... | Tls. 64 | | Tls. 675,000 | 13,500 | Tls. 50 | Tls. 50 | — | Tls. 3 for 1907.......................... | June 28, 1909 |
| China Export, Import & Lumber Company, Limited............ | Tls. 75 sales | | Tls. 350,000 | 500 | Tls. 100 | Tls. 50 | — | 5 p. c. for 1909.......................... | May 1, 1910 |
| China Printing Co., Limited..... | Tls. 50 | | Tls. 750,000 | 1,500 | Tls. 50 | Tls. 50 | — | 7% 1908.......................... | Apr. 18, 1909 |
| Hirano Mineral Water Co., Ltd. | Y. 10 | | Y. 125,000 | 5,000 | Y. 25 | Y. 25 | — | 10%=yen 2½ for year ending 30th Sept. 08 Y. 1.20 for year ended Feb. 29.................. | Apr. 26, 1909 |
| Shanghai Electric & Asbestos Company, Limited............ | $21 sellers | | $125,000 | 5,000 | $25 | $25 | — | 8% for year ended Feb. 28, 09.... | June 21, 1909 |
| Shanghai Electric Construction Company, Limited............ | £6/5 | £11 | £320,000 | 32,000 | £10 | £10 | — | First year.......................... | — |

# DEBENTURES

| LOANS | | PRICE—PLUS ACCRUED INTEREST | AMOUNT OF LOAN | OUTSTANDING | NOMINAL VALUE | RATE OF INTEREST | WHEN PAYABLE |
|---|---|---|---|---|---|---|---|
| Shanghai Municipal Debentures.......................... | 1892 | Tls. 97 | Tls. 45,400 | Tls. 45,400 | Tls. 100 | 5 % | June & Dec. |
| do | 1893 | ,, 100 | ,, 46,200 | " 32,000 | " 100 | 5½ ,, | Do |
| do | 1894 | ,, 106 | ,, 60,000 | " 60,000 | " 100 | 6 ,, | Do |
| do | 1895 | ,, 97 | ,, 107,600 | " 32,600 | " 100 | 5 ,, | Do |
| do | 1896 | ,, 97 | ,, 117,300 | " 131,800 | " 100 | 5 ,, | Do |
| do | 1897 | ,, 97 | ,, 268,400 | " 268,400 | " 100 | 5 ,, | Do |
| do | 1898 | ,, 106 | ,, 60,000 | " 60,000 | " 100 | 6 ,, | Do |
| do | 1900 | ,, 100 | ,, 31,700 | " 31,700 | " 100 | 5½ ,, | Do |
| do | 1901 | ,, 106 | ,, 77,000 | " 200,000 | " 100 | 6 ,, | Do |
| do | 1902 | ,, 106 | ,, 145,000 | " 150,000 | " 100 | 6 ,, | Do |
| do | 1903 | ,, 106 | ,, 430,500 | " 490,500 | " 100 | 6 ,, | Do |
| do | 1904 | ,, 106 | ,, 164,500 | " 214,500 | " 100 | 6 ,, | Do |
| do | 1905 | ,, 106 | ,, 285,900 | " 320,000 | " 100 | 6 ,, | Do |
| do | 1907 | ,, 106 | ,, 500,000 | " 250,000 | " 100 | 6 ,, | Do |
| do | 1908 | ,, 250 scarce | ,, 650,000 | " 354,400 | " 250 | 6 ,, | Do |
| do | 1909 | ,, 97½ | ,, 300,000 | " 250,000 | " 100 | 6 ,, | Do |
| Chinese Imperial Government Loan.......................... | 1886 E | ,, 102½ | ,, 354,400 | " ....... | " 100 | 7 ,, | Mar. & Sept |
| Shanghai Land Investment Co., Debentures.............. | 1892 | ,, 95 | ,, 250,000 | " 250,000 | " 100 | 6 ,, | May & Nov. |
| do | 1894 | ,, 104 | ,, 250,000 | " 250,000 | " 100 | 6 ,, | Mar. & Sept. |
| do | 1896 | ,, 104 | ,, 250,000 | " 250,000 | " 100 | 5 ,, | June & Dec. |
| do | 1900 | ,, 95 | ,, 250,000 | " 250,000 | " 100 | 6 ,, | April & Oct. |
| do | 1901 | ,, 104 | ,, 250,000 | " 100,000 | " 100 | 6 ,, | June & Dec. |
| do | 1901 | ,, 104 | ,, 100,000 | " 400,000 | " 100 | 5 ,, | May & Nov. |
| do | 1902 | ,, 104 | ,, 400,000 | " 250,000 | " 100 | 6 ,, | June & Dec. |
| do | 1905 | ,, 104 | ,, 250,000 | " 815,900 | " 100 | 6 ,, | Do |
| Shanghai Waterworks Co., Debentures.................... | 1909 | ,, 104 | ,, 865,900 | " ....... | " 100 | 6 ,, | April & Oct. |
| Shanghai Gas Co., Debentures.......................... | 1909 | ,, 106 | ,, 775,000 | " 800,000 | " 100 | 5 ,, | Do |
| Shanghai and Hongkew Wharf Co., Debentures........... | 1902 | ,, 105 scarce | ,, 1,000,000 | " 799,800 | " 100 | 6 ,, | June & Dec. |
| Astor House Co., Debentures.......................... | 1905 | ,, 100 | ,, 750,000 | " 500,000 | " 100 | 7 ,, | Do |
| British Municipal Council, Hankow.......................... | 1901 | Sh. ,, 100 | H'kow Tls 100,000 | H'kow Tls 100,000 | " 100 | 7 ,, | June & Dec. |
| Shanghai Club Debentures.......................... | 1907 | ,, 100 | Tls. 170,000 | Tls. 170,000 | " 100 | 6 ,, | Do |
| Country Club Debentures.......................... | | ,, 102½ | ,, 139,000 | " 139,000 | " 100 | 6 ,, | Do |
| do | 1907 | ,, 102 | ,, 92,000 | " 92,000 | " 100 | 6 ,, | Do |
| Lane Crawford & Co., Debentures.......................... | 1907 | ,, 105 | ,, 110,000 | " 110,000 | " 100 | 7 ,, | Mar. & Sept. |
| Anglo-French Land Debentures.......................... | 1908 | ,, 102 | ,, 250,000 | " 250,000 | " 100 | 6 ,, | June & Dec. |
| Central Stores Ltd. Debentures.......................... | 1908 | ,, 102½ | ,, 250,000 | " 250,000 | " 100 | 8 ,, | Do |
| Shanghai Mutual Tel. Co. Debentures.......................... | 1909 | ,, 102½ | ,, 200,000 | " 200,000 | " 100 | 6 ,, | Do |

# SINGAPORE SHARE QUOTATIONS

(COURTESY MESSRS. FRASER & CO., BROKERS, SINGAPORE, OCTOBER 27, 1910)

| Date of Formation | Capital | Capital paid up | No. of Shares Issued | Issue Value | Paid up | Reserve | Last Dividend | Name | Buyers. | Sellers. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | **MINING** | | |
| 1903 | $300,000 | 300,000 | 30,000 | 10 | 10 | ....... | 30% for year ending 31-3-10.......... | Belat Tin Mining Co., Ltd.......... | 4.00 | 5.00 |
| 1907 | $300,000 | 225,000 | 22,500 | 10 | 10 | ....... | .......... | Bruang Ltd.......... | 5.00 | 5.50 |
| 1901 | $600,000 | 600,000 | 60,000 | 10 | 10 | 25,000 | 6% for year ending 30-4-09.......... | Bruseh Hydraulic Tin Mining Co., Ltd...... | .. | 5.00 |
| 1907 | $400,000 | 375,000 | 37,500 | 10 | 10 | ....... | .......... | Kanaboi, Ltd.......... | 2.00 | 2.50 |
| 1901 | £60,000 | 60,000 | 60,000 | 1 | 1 | ....... | 2/- interim 1909.......... | Kinta Tin Mines, Ltd.......... | 16.00 | 17.00 |
| 1905 | $150,000 | 99,000 | 9,900 | 10 | 10 | 6,485.68 | 35% for year ending 31-12-07.......... | Kuantan Tin Mining Co., Ltd.......... | 2.00 | 3.00 |
| 1906 | £120,000 | 120,000 | 120,000 | 1 | 1 | ....... | 1/- interim 1909.......... | Lahat Mines Ltd.......... | 8.00 | 9.00 |
| 1906 | $450,000 | 450,000 | 45,000 | 10 | 10 | ....... | .......... | Malacca Tin Dredging Co., Ltd.......... | .... | 1.50 |
| 1906 | £30,000 | 30,000 | 30,000 | 1 | 1 | ....... | .......... | Malaya and Siam Corporation Ltd.......... | .... | 7/6 |
| 1906 | £250,000 | 179,500 | 500,000e | 5/- | 5/- | ....... | .......... | Pahang Consolidated Co., Ltd.......... | 4/6 | 5/6 |
| 1907 | £100,000 | 80,000 | 80,000 | 1 | 1 | ....... | .......... | Pengkalen, Ltd.......... | 4.00 | 5.00 |
| 1904 | £100,000 | 80,000 | 80,000 | 1 | 1 | ....... | .......... | Pusing Bahru Tin Mines, Ltd.......... | 7.00 | 7.25 |
| 1904 | £120,000 | 100,000 | 100,000 | 1 | 1 | 6,000 | 45% for year ending 30-6-07.......... | Pusing Lama Tin Mines, Ltd.......... | 2.00 | 2.50 |
| 1907 | $450,000 | 300,000 | 30,000 | 10 | 10 | ....... | .......... | Rahman Hydraulic Tin, Ltd.......... | .. | 10.00 |
| 1905 | £27,000 | 27,000 | 27,000 | 1 | 1 | ....... | 1/- for 1907.......... | Rambutan, Ltd.......... | .. | 10.00 |
| 1905 | £200,000 | 200,000 | 200,000 | 1 | 1 | 4,873 | 1/2 paid April, 1910.......... | Raub Aust. Gold Ming. Co., Ltd,.......... | 3.00 | 4.00 |
| 1892 | £40,000 | 40,000 | 40,000 | 1 | 1 | ....... | .......... | Redhills Tin Mining Co., Ltd.......... | 2.50 | 3.50 |
| 1905 | $110,000 | 110,000 | 22,000 | 5 | 5 | ....... | 3% for year ending 22-1-09.......... | Royal Johore Tin Mining Co., Ltd.......... | .... | 1.25 |
| 1900 | $550,000 | 500,000 | 50,000 | 10 | 10 | ....... | .......... | Salak South, Ltd.......... | .... | 3.00 |
| 1907 | £80,000 | 80,000 | 80,000 | 1 | 1 | ....... | .......... | Sempam Tin Mines, Ltd.......... | 1.00 | 1.50 |
| 1907 | $850,000 | 850,000 | 85,000 | 10 | 10 | 25,000 | 5% interim 1909.......... | Serendah Hydraulic Tin Ming. Co., Ltd... | 5.00 | 5.25 |
| 1906 | $230,000 | 230,000 | 23,000 | 10 | 10 | ....... | 3% for ½ year ending 31-12-08.......... | Sipiau Tin Co., Ltd.......... | 1.50 | 2.00 |
| 1989 | $200,000 | $150,000 | 15,000 | 10 | 10 | ....... | .......... | Sungei Gau Tin Mining Co., Ltd.......... | .. | 4.00 |
| 1909 | £90,000 | 70,000 | 70,000 | 1 | 1 | ....... | 1/6 interim 1909.......... | Tekka, Limited.......... | 20.50 | 21.50 |
| 1907 | £150,000 | 150,000 | 150,000 | 1 | 1 | ....... | 1/- interim 1909.......... | Tongkah Harbour Tin Dredging Co., Ltd. | 10 50 | 11.25 |
| 1906 | £160,000 | 160,000 | 160,000 | 1 | 1 | ....... | 5/- during 1910.......... | Tronoh Mines, Ltd.......... | 13.25 | 13.50 |
| 1902 | | | | | | | | | | |

# SINGAPORE SHARE QUOTATIONS.—(CONTINUED.)

| Date of Formation | Capital | Capital paid up | No. of Shares Issued | Issue Value | Paid up | Reserve | Last Dividend | Name | Buyers | Sellers |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | **STERLING RUBBER** | | |
| 1909 | £85,000 | 75,000 | 750,000 | 2/- | 2/- | ....... | | Allagar Rubber Estates, Ltd | 4/9 | 5/3 |
| 1905 | £150,000 | 150,000 | 1,500,000 | 2/- | 2/- | ....... | 25% interim | Anglo-Malay Rub. Co., Ltd. | 1.3.6 | 1.4.6 |
| 1909 | £50,000 | 47,000 | 470,000 | 2/- | 2/- | ....... | | Batang Malaka Rubber Estates, Ltd. | 2/- | 2/6 |
| 1904 | £30,000 | 20,187 10/- | 19,000 | 1 | 1 | ....... | 35% interim | Batu Caves Rub. Co., Ltd. | 15.0.0 | 16.0.0 |
| | | | 4,750f | | | | | | | |
| 1906 | £80,000 | 70,000 | 70,000l* | 1 | 5/- | ....... | 2½% for 1909 | Batu Tiga (Selangor) Rubber Co., Ltd. | 4.12.6 | 5.0.0 |
| 1909 | £100,000 | 74,454 | 57,816 | 1 | 1 | ....... | | Bukit Kajang Rubber Estates, Ltd | 2.0.0 | 2.10.0 |
| | | | 22,184n* | 1 | 1 | ....... | | " " " part paid | 1.10.0 | 1.15.0p. |
| 1907 | £30,000 | 25,500 | 24,000 | 1 | 15/- | ....... | 30% for year ending 30-6-10 | Bukit Lintang Rubber Estates, Ltd | 4.5.0 | 4.10.0 |
| | | | 6,000 | 1 | 1 | ....... | | " " " part paid | 2.2.6 | 2.7.6p. |
| 1903 | £70,000 | 66,700 | 66,700 | 1 | 5/- | ....... | 90% for 1909 | Bukit Rajah Rubber Co., Ltd. | 15.7.6 | 16.0.0 |
| 1906 | £35,000 | 30,000 | 30,000 | 1 | 1 | 2,000 | | Castlefield (K.) R. Estate, Ltd. | 5.17.6 | 6.5.0 |
| 1909 | £225,000 | 175,000 | 1750,000 | 1 | 1 | ....... | | Chersonese (F.M.S.) Estates, Ltd | 3/9 | 4/- |
| 1904 | £16,000 | 16,000 | 100,000 | 2/- | 2/- | ....... | 50% interim | Cicely Rubber Estates Co., Ltd. | 2.2.0 | 2.3.0 |
| | | | 60,000 | 2/- | 2/- | ....... | 51½% interim | " " " 5% Pref | 2.2.0 | 2.3.0 |
| 1905 | £75,000 | 62,007 | 620,070 | 2/- | 2/- | ....... | 50% interim | Consolidated Malay Rub. Estates, Ltd. | 1.5.0 | 1.6.0 |
| 1906 | £110,000 | 102,500 | 102,500 | 2/- | 2/- | 1,000 | 50% for 1909 | Damansara (Selangor) Rubber Co., Ltd. | 7.2.6 | 7.12.6 |
| 1903 | £600,000 | 447,200 | 447,200a | 1 | 1 | ....... | | Duff Development Co., Ltd | 14/3 | 15/3 |
| 1909 | £45,000 | 40,000 | 400,000 | 1 | 1 | ....... | 15% for 1909 | Edinburgh Rub. Estates, (Selangor) Ld. | 11/6 | 12/6 |
| 1907 | £80,000 | 70,000 | 70,000 | 2/- | 2/- | ....... | 25% interim | Golconda Rubber Co., Ltd. | 5.5.0 | 5.15.0 |
| 1906 | £310,000 | 305,000 | 305,000 | 1 | 1 | ....... | 35% for 1909 | Highlands & Lowds. Para Rub. Co., Ltd. | 5.0.0 | 5.7.6 |
| 1904 | £50,000 | 30,000 | 30,000 | 1 | 1 | 8,784 | 100% for year ending 30-5-10 | Inch Kenneth Rubber Estates, Ltd | 13.0.0 | 14.0.0 |
| 1909 | £200,000 | 143,750 | 775,000p | 1 | 1 | 2,500 | | Kam. (P.) R. & T. Co., Ltd. "A" Shares | 5/6 | 6/- p. |
| | | | 105,000 | 2/- | 1/- | ....... | | " " " "B" " | .... | nom. |
| 1905 | £65,000 | 65,000 | 65,000 | 1 | 1 | ....... | 20% interim | Kapar Para Rubber Estates, Co., Ltd | 9.0.0 | 10.0.0 |
| 1909 | £35,000 | £17,250 | 95,000 | 1 | 1 | ....... | | Kota Tinggi Johore Rubber Co., Ltd | 1/9 | 2/3 |
| | | | 155,000 | 2/- | 2/- | ....... | | " " " | .... | 0/3 p. |
| 1906 | £180,000 | 180,000 | 180,000 | 2/- | 1/- | ....... | 30% interim | Kuala Lumpur Rubber Co., Ltd | 8.2.6 | 8.10.0 |
| 1907 | £100,000 | 90,000 | 900,000 | 1 | 1 | ..... | 20% interim | Labu (F. M. S.) Rub. Co., Ltd | 15/- | 16/- |
| 1907 | £320,000 | £252,067/10/- | 198,930v | 2/- | 2/- | ....... | 27½% for 1909 | Lanadron Rubber Estates, Ltd | 4.15.0 | 5.5.0 |
| | | | 70,850 | 1 | 1 | 3,000 | 27½% for 1909 | " " " part paid | 3.12.6 | 4.5.0 p. |
| 1908 | £125,000 | 75,000 | 60,000g* | 1 | 15/- | ....... | 17½% for 1909 | Ledbury Rubber Estates Ltd | 3.10.0 | 4.0.0 |
| | | | 40,000 | 1 | 1 | ....... | 17½% for 1909 | " " " part paid | 2.0.0 | 2.5.0p. |
| 1895 | £100,000 | 98,324 8/- | 883,244w | 1 | 7/6 | ....... | 100% interim | Linggi Plantations Ltd., | 2.2.0 | 2.3.9 |
| | | | 10,000 | 2/- | 2/- | 4,000 | 7% for 1909 | " " 7% Pref | .... | nom. |
| 1907 | £140,000 | 118,000 | 1,180,000 k | 1 | 1 | ....... | 12½% for 1909 | London Asiatic R. & Produce Co., Ltd. | 12/- | 12/9 |
| 1909 | £220,000 | 147,500 | 50,000 | 2/- | 2/- | ....... | | Lumut Rubber Estates, Ltd. | .... | nom. |
| | | | 150,000 | 1 | 1 | ..... | | " " " " part paid | 17/6 | 20/- p. |
| 1906 | £400,000 | 300,000 | 185,000 | 1 | 13/- | ....... | 10% interim for 1909 | Malacca Rubber Plants., Ltd. | 7.0.0 | 7.10.0 |
| | | | 115,000 | 1 | 1 | ....... | " " " | " " " " 7½% Pref. | 7.0.0 | 7.10.0 |
| 1909 | £210,000 | 175,000 | 1,750,000 | 1 | 1 | ..... | | Merlimau Rubber Estates, Ltd | 6/- | 6/5 |
| 1903 | £30,000 | 22,500 | 225,000 | 2/- | 2/- | ....... | 75% interim | Pataling Rubber Estates Synd. Ltd | 2.16.3 | 3.0.0 |
| 1906 | £85,000 | 85,000 | 850,000 | 2/- | 2/- | ....... | 12½% interim 1909 | Perak Rubber Plantations, Ltd | 8/- | 8/6 |
| 1909 | £60,000 | 41,150 | 15,000s* | 2/- | 2/- | ....... | | Rembia Rubber Estates Ltd. | .... | nom. |
| | | | 35,000 | 1 | 1 | ....... | | " " " 6% Cum. Pref | 5/- | 7/6 p. |
| 1904 | £25,000 | 19,092 | 17,732u | 1 | 15/- | ....... | 25% interim | Sagga Rubber Company, Limited | 11.0.0 | 12.0.0 |
| | | | 2,268 | 1 | 1 | ....... | | | | |
| 1905 | £100,000 | 100,000 | 71,378 | 1 | 12/- | ..... | | Sapong Rubber and Tobacco Estates, Ltd. | 1.5.0 | 1.7.6. |
| | | | 28,622l‡ | 1 | 1 | ....... | | | | |
| 1907 | £100,000 | 100,000 | 100,000 | 1 | 1 | 3,000 | 15% interim | Seafield Rubber Co., Ltd | 7.2.6 | 7.7.6 |
| 1898 | £30,000 | 30,000 | 300,000 | 2/- | 2/- | ....... | 150% interim | Selangor Rubber Co., Ltd | 3.0.0 | 3.2.6 |
| 1909 | £50,000 | 32,000 | 40,000 | 1 | 16/- | ....... | | Sendayan (F. M. S.) Rubber Co., Ltd | 2.0.0 | 2.5.0 p. |
| 1906 | £65,000 | 65,000 | 65,000 | 1 | 1 | ....... | 7½% for 1909 | Shelford Rubber Estate, Ltd | 3.10.0 | 3.15.0 |
| 1909 | £150,000 | 78,500 | 14,000i‡ | 1 | 1 | ....... | | Sialang Rubber Estates, Ltd | 17/6 | 1.2.6p. |
| | | | 86,000 | 1 | 15/- | ....... | | | | |
| 1909 | £120,000 | 100,000 | 100,000 | 1 | 1 | ....... | | Singapore Para Rubber Estates, Ltd. | 2.12.6 | 3.0.0 |
| 1906 | £192,500 | 192,500 | 1,925,000 | 2/- | 2/- | ..... | 10% interim | Straits Settlements (B.) Rub. Co., Ltd | 6/9 | 7/6 |
| 1907 | £45,000 | 45,000 | 45,000 | 1 | 1 | ..... | | Sungei Choh Rub. Estate, Co. Ltd. | 4.15.0 | 5.0.0 |
| 1906 | £110,000 | 100,000 | 1,000,000 | 2/- | 2/- | ....... | 37½% for 1909 | Sungei Kapar Rubber Co., Ltd | 14/6 | 15/6 |
| 1907 | £70,000 | 55,000 | 55,000 | 1 | 1 | ....... | | Sungei Salak Rubber Co., Ltd | 4.1.3 | 4.5.0 |
| 1904 | £50,000 | 50,000 | 50,000 | 1 | 1 | ....... | 12½% interim | Sungei Way (Selangor) Rub. Co., Ltd | 5.7.6 | 5.15.0 |
| 1908 | £150,000 | 76,000 | 36,000 | 1 | 1 | ....... | | Tebrau (Johore) Rubber Co | 3.10.0 | 4.0.0 |
| | | | 64,000 | 1 | 12/6 | ....... | | " " " part paid | 2.2.6 | 2.6.6p. |
| 1907 | £200,000 | 170,000 | 170,000 | 1 | 1 | ..... | 5% interim | United Serdang (S.) R. Plantations, Ltd. | 5.0.0 | 5.10.0 |
| 1908 | £85,000 | 65,900 | 650,000 | 2/- | 2/- | ..... | 20% interim | United Sumatra Rubber Estates, Ltd. | 7/6 | 8/6 |
| 1904 | £60,000 | 50,600 | 506,000 | 2/- | 2/- | ..... | 250% for year ending 31-3-10 | Vallambrosa Rubber Co., Ltd. | 1.19.0 | 2.1.0 |
| | | | | | | | | **DOLLAR** | | |
| 1909 | $120,000 | 105,000 | 105,000w* | 1 | 1 | ....... | | Alor Gajah Rubber Estate, Ltd | 2.35 | 2.50 |
| 1909 | $750,000 | 700,000 | 140,000 | 5 | 5 | ..... | | Ayer Panas Rubber Estates, Ltd | 6.75 | 7.25 |
| 1905 | $200,000 | 151,200 | 151,200 | 1 | 1 | 5,250 | 40% interim | Balgownie Rub. Estate, Ltd | 10.50 | 11.00 |
| 1910 | $500,000 | 500,000 | 50,000 | 10 | 10 | ....... | | Bukit Timah Rubber Estates, Ltd | 14.50 | 15.00 |
| 1910 | $750,000 | 700,000 | 70,000 | 10 | 10 | ....... | | Changkat Serdang Estates, Ltd | 8.00 | 8.50 |
| 1909 | $300,000 | 300,000 | 300,000 | 1 | 1 | ..... | | Glenealy Plantations, Ltd | 2.00 | 2.25 |
| 1910 | $200,000 | 144,285 | 12,857m‡ | 5 | 5 | ....... | | Haytor Rubber States, Ltd | .... | nom. |
| | | | 20,000 | 5 | 4 | ....... | | " " " " part paid | par. | 2.00 p. |
| 1910 | $600,000 | 180,000 | 30,000 | 10 | 6 | ....... | | Henrietta Estates, Ltd. | par. | 1.00 p. |
| 1909 | $250,000 | 200,000 | 20,000 | 10 | 10 | ..... | | Indragiri (S.) R. and Gutta P. Co., Ltd | 14.00 | 15.00 |
| 1910 | $350,000 | 291,000 | 11,000 | 5 | 5 | ....... | | Kelemak Rubber Estate, Ltd | 3.50 | 4.00 |
| | | | 59,000 | 5 | 4 | ....... | | " " " part paid | 2.00 | 1.50 dis. |
| 1907 | $300,000 | 170,000 | 20,000 | 10 | 8,50 | .... | | Kombok Rubber Co., Ltd | 15.00 | prem. |
| 1910 | $1,000,000 | 1,000,000 | 500,000 | 2 | 2 | ....... | | Malakoff Rubber Co., Ltd. | 2.00 | 2.30 |
| 1910 | $1,250,000 | 1,250,000 | 250,000 | 5 | 5 | ....... | | New Singapore Rubber Co., Ltd | 5.50 | 6.00 |
| 1909 | $400,000 | 400,000 | 80,000 | 5 | 5 | ....... | 5% interim | Pajam Limited | 12.00 | 13.00 |
| 1909 | $200,000 | 200,000 | 200,000 | 1 | 1 | ....... | | Pantai, Limited | 1.10 | 1.20 |
| 1909 | $500,000 | 450,000 | 45,000 | 10 | 10 | ....... | 7½% interim | Pegoh, Limited | 32.00 | 34.00 |
| | | | | | | | | Port Dickson Rubber Co., Ltd | 12.00 | 13.00 |
| 1910 | $450,000 | 295,000 | 45,000f‡ | 5 | 5 | ....... | | " " " | 4.00 | 6.00 p. |
| | | | 35,000 | 5 | 2 | ..... | | Pulo Daat Plantations, Ltd. | 1.00 | 1.20 |
| 1910 | $200,000 | 150,000 | 150,000 | 1 | 1 | 20,000 | 50% interim | Sandycroft Rubber Co., Ltd | 27.00 | 28.50 |
| 1904 | $100,000 | 100,000 | 50,000b* | 2 | 2 | ....... | 25% interim | Singapore & Johore Rub. Co. Ltd | 11.50 | 12.50 |
| 1903 | $450,000 | 417,300 | 208,650 | 2 | 2 | ....... | | St. Helena Rubber Coy., Ltd | .... | 28.00 |
| 1909 | $250,000 | 100,000 | 10,000 | 10 | 10 | ..... | | Sungei Bagan Rubber Co., Ltd | .... | par. |
| 1910 | $600,000 | 450,000 | 225,000** | 2 | 2 | .... | | Teluk Anson Rubber Estate, Ltd | 5.00 | 5.50 |
| 1909 | $200,000 | 165,000 | 33,000 | 5 | 5 | ....... | | United Singapore Rubber Estates, Ltd. | 1.30 | 1.50 |
| 1909 | $1,000,000 | 637,500 | 737,500y* | 1 | 1 | ..... | | " " " " " | .... | nom. |
| | | | | 1 | -/50 | ..... | | **GENERAL** | | |
| 1903 | £400,000 | 400,000 | 400,000 | 1 | 1 | ..... | | Singapore Electric Tramways, Co., Ltd. | 2/6 | 3/6 |
| 1907 | $1,500,000 | 1,065,150 | 25,000d* | 10 | 10 | —— | 10% for year ending 31/12/08 | Eastern Smelting Co. Ltd | .... | 10.00 n. |
| | | | 116,450 | 10 | 7 | —— | 10% for year ending 31-12-08 | " " " part paid | .... | 6.00 n |
| 1898 | $3 000 | 360,000 | 36,000 | 10 | 10 | 170,000 | 15% & 5% bon. for yr. end. 31-12-09 | Fraser & Neave, Ltd | 27.00 | 29.00 |
| 1905 | $2,400,000 | 2,400,000 | 18,000 | 100 | — | 75,000 | 2½% for year ending 31-10-08 | Howarth Erskine, Ltd | 57.00 | 58.00 |
| | | | 6,000 | 100 | — | | 7% for year ending 31-10-08 | " " 7% Pref | 90.00 | 91.00 |
| 1896 | $1,000,000 | 1,000,000 | 6,000 | 100 | 100 | 40,600 | 12% for year ending 31-12-09 | Kats' Brothers, Ltd. Deferred | .... | 125.00 |
| | | | 4,000 | 100 | 100 | | 8% " " " " 09 | " " 8% Cum. Pref | .... | nom. |
| 1901 | $34,000 | 34,000 | 3,400 | 10 | 10 | —— | 20% for year ending 31-10-09 | Maynard & Co., Ltd | 20.00 | 21.00 |
| 1899 | $875,000 | 875,000 | 6,000 | 100 | 100 | 175,000 | 5% for year ending 31/12/09 | Riley, Hargreaves & Co., Ltd | 82 00 | 85.00 |
| | | | 2,750 | 100 | 100 | | 7% for year ending 31/12/09 | " " " " 7% Pref | 102.00 | .... |
| 1897 | £3,500,000 | 3,500,000 | 2,500,000 | 1 | 1 | 1,120,000 | 22½% for 1909 | Shell Transport and Trading Co., Ltd | 4.0.0 | 4.4.0 |
| | | | 100,000 | 10 | 10 | ....... | | " " " " Pref. | 11.5.0 | 12.0.0 |
| 1903 | $600,000 | 250,000 | 25,000n | 10 | 10 | ..... | 12½% for year ending 30-6-10 | Singapore Cold Storage Co., Ltd | 20.50 | 21.50 |
| 1891 | $30,000 | 30,000 | 600 | 50 | 50 | 23,000 | 10% for year ending 31-7-09 | Singapore Dispensary Ltd. | 50.00 | 52.50 |
| 1884 | $200,000 | 200,000 | 2,000 | 100 | 100 | 75,000 | 15% interim | Straits Ice Co., Ltd | 160.00 | 165.00 |
| 1890 | $1,000,000 | 623,000 | 4,980 | 100 | 100 | 760,000q | 5% interim | Straits Steam Ship Co., Ltd | 195.00 | 205.00 |
| | | | 2,500 | 100 | 50 | 130,000r | | " " " " " part paid | 70.00 | 80.00 p. |
| 1887 | $3,000,000 | 3,000,000 | 300,000 | 10 | 10 | 1,222,409 | 10% & 5% bon. for half yr. end. 31/3/10 | Straits Trading Co., Ltd | 56.00 | 57.00 |

**DEBENTURES**

| Name | Buyers | Sellers |
|---|---|---|
| Howarth Erskine, Ltd. 6% $600,000 | .... | par. |
| Riley, Hargreaves & Co., Ltd. 6% 284,000 | 1% | 3% p. |
| Singapore Electric Tramways, Co., Ltd. 5% £350,000 | .... | .... |
| Singapore Municipal 5% 1,878,000 | .... | nom. |
| " " 4½% of 1907 1,600,000 | 6% | 7% p. |
| " " 4½% of 1909 1,000,000 | 7% | 8% p. |
| " " 4% 602,900 | .... | 7% dis. |

a { 152,800 unissued; 43,949 6% debenture
e { 54,500 £1 Prefs. issued; 45,500 £1 " unissued; 100,000 5/- Ord. "
f 6,250 unissued
k £40,000 6% Debentures 220,000 unissued

p 175,000 unissued "A" shares
q Sundry Reserves.
r "
u 5,000 issued £1 prem.
v 50,220 unissued
w 16,756 "

b* 221 7½% Debentures
d* 8,550 unissued
g* 25,000 "
l* £10,000 Convertible 6% Debentures issued £10,000 do. unissued
n* 20,000 unissued

y* 262,500 "
z* 10,000 "
i‡ 50,000 "
l‡ 6% Deb. Stock Convertible.
m‡ 7,143 unissued.
** 75,000 unissued.

# YOKOHAMA SHARE QUOTATIONS

Courtesy A. C. Hutton Potts, Share and General Broker, Yokohama, October 21, 1910.

| Stocks. | Capital. | No. of Shares. | Issue Value. | Amount Paid Up. | Date. | Last Dividend. | For Term. | Closing Quotation. |
|---|---|---|---|---|---|---|---|---|
| Brett & Co., Ltd. | -Y- 28,000 | 2,800 | -Y- 10 | -Y- 10 | 31-12-09 | 12½% | for 1 year | 15 Sellers |
| Club Hotel, Ltd. | 185,000 | 1,850 | 100 | 100 | 31-3-10 | 6% | for 1 year | 70 Sales |
| Grand Hotel, Ltd. | 500,000 | 5,000 | 100 | 100 | 31-6-10 | 5% | for ½ year | 95 Sellers. |
| Helm Bros., Ltd. | 186,000 | 3,720 | 50 | 50 | 31-12-10 | 17½% | for 1 year | 87 Sales. |
| Langfeldt & Co., Ltd. | 100,000 | 2,000 | 50 | 50 | 31-6-09 | 6% | for ½ year | 60 Sellers. |
| C. Nickel & Co., Ltd. † | 500,000 | 20,000 | 25 | 25 | 31-10-09 | 20% | for 1 year | 57 Sales. |
| Thwaites, Limited | 100,000 | 2,000 | 50 | 50 | First Year | — | — | 55 Sales. |
| Yokohama Engine and Iron Works * | 500,000 | 10,000 | 50 | 50 | 31-5-09 | — | for 1 year | 40 Sellers. |
| Oriental Hotel, Ltd., Ordinary | 250,000 (Ordinary and Preference) | 3,000 | 50 | 50 | 31-8-07 | 12% | for 1 year | 50 Sales |
| Oriental Hotel, Ltd., Preference | | 2,000 | 50 | 50 | | 8% | for 1 year | 52:50 Sales |
| The Union Estate and Investment Co., Ltd. ‡ | 1,000,000 | 10,000 | 100 | 100 | 30-9-09 | 6½% | for 1 year | 100 Nominal. |
| The Clifford Wilkinson Tansan Mineral Water Co., Ltd. § | 500,000 | 5,000 | 100 | 100 | 31-12-09 | 7% | for 1 year | 100 Buyers. |

† 285,000 unissued.
‡ 475,000 unissued.
*-Y- 390,000 issued.
§-Y- 375,800 issued.

| Debenture Loans. | Amount of Loan. | Face Value of Debentures. | Rate of Interest. | Interest Payable. | Closing Quotation. |
|---|---|---|---|---|---|
| Brett & Company, Limited | 11,500.00 | 100.00 | 7% | 1 June and 1 Dec. | 95 Sales. |
| Yokohama United Club | 230,000.00 | 100.00 | 6% | 30 June and 31 Dec. | 102 Nominal. |
| Oriental Hotel, Limited | 350,000.00 | 100.00 | 8% | 1 April and 1 Oct. | 103 Sales. |
| Union Estate and Investment Co., Limited | 250,000.00 | 100.00 | 6% | 30 June and 31 Dec. | 95 Sellers. |

| Japanese Stocks. | Face Value. | Amount Paid Up. | Last Dividend. | Dividend Payable. | Closing Quotation. |
|---|---|---|---|---|---|
| **Bonds & Debentures.** | | | | | |
| Exchequer Bonds 3rd issue | -Y-100 | -Y-100 | 5% | March and Sept. | -Y-100.30 |
| Railway Bonds (Ko-Gobu) | 100 | 100 | 5% | June and Dec. | ,, 102.10 |
| 4% Imperial Loan Bonds (1st issue) | 100 | 100 | 4% | June and Dec. | ,, 94.70 |
| 4% Imperial Loan Bonds (2nd issue) | 100 | 100 | 4% | March and Sept. | ,, 94.30 |
| Imperial 5% Bonds | 100 | 100 | 5% | March and Sept. | ,, 100.20 |
| Special 5% Bonds (issued 1906) | 100 | 100 | 5% | June and Dec. | ,, 101.80 |
| Yokohama Water Works Bonds | 100 | 100 | 6% | June and Dec. | ,, 105.00 |
| Yokohama City Public Loan Bonds | 100 | 100 | 6% | March and Sept. | ,, 105.50 |
| Osaka City Harbour Construction Bonds | 100 | 100 | 6% | June and Dec. | ,, 103 20 |
| Osaka City Public Loan Bonds | 100 | 100 | 6% | June and Dec. | ,, 103.20 |
| Kawasaki Dock Yards Co.'s Debentures | 100 | 100 | 7% | June and Dec. | ,, 104.00 |
| Tokyo Race Associations " | 500 | 500 | 30% | June and Dec. | ,, 180.00 |
| **Railways & Electric Trams.** | | | | | |
| Tokyo Railway Company, Limited | 50 | 50 | 5 2/5% | June and Dec. | ,, 72.30 |
| Yokohama Electric Tramway Company, Limited | 50 | 50 | 6% | July and Jan. | ,, 53.00 |
| Keihin Electric Tramway Company, Limited | 50 | 50 | 6% | June and Dec. | ,, 44.00 |
| Southern Manchurian Railway Co., Ltd. | 100 | 20 | 6% | June and Dec. | ,, 44.00 |
| Hanshin Electric Tramway Co., Ltd. | 50 | 50 | 12% | May and Nov. | ,, 123.00 |
| **Cotton Spinnings.** | | | | | |
| Kanegafuchi Cotton Spinning Company, Limited | 50 | 50 | 14% | July and Jan. | ,, 101.00 |
| Fuji Gassed-yarn Company, Limited | 50 | 50 | 14% | July and Jan. | ,, 79.55 |
| Tokyo Cotton Spinning Company, Limited | 50 | 50 | 8% | July and Jan. | ,, 40.00 |
| Imperial Hemp Weaving Company, Limited | 50 | 50 | 12% | July and Jan. | ,, 68.05 |
| Nisshin Boseki Kabushiki Kaisha | 50 | 17½ | 7% | —— | ,, 11.70 |
| **Sugar & Beer Cos.** | | | | | |
| Dai-nippon Sugar Refinery Company, Limited | 50 | 50 | ....... | May and Nov. | ,, 36.00 |
| Ensuiko Sugar Refinery Company, Limited | 50 | 20 | 20% | June and Dec. | ,, 48.00 |
| Dai-nippon Beer Company, Limited | 50 | 50 | 12% | July and Jan. | ,, 77.80 |
| Kirin Brewery Company, Limited | 50 | 50 | 7% | July and Jan. | ,, 52.50 |
| **Docks & Steamships.** | | | | | |
| Yokohama Dock Company, Limited | 50 | 33 | 12% | June and Dec. | ,, 57.00 |
| Uraga Dock Company, Limited | 50 | 50 | ....... | July and Jan. | ,, 7.50 |
| Kawasaki Dockyard Company, Limited | 50 | 50 | 12½% | Feb. and Aug. | ,, 54.00 |
| Nippon Yusen Kaisha | 50 | 50 | 10% | May and Nov. | ,, 95.80 |
| Hokkaido Tanko S. S. Company, Limited | 50 | 50 | 5% | July and Jan. | ,, 29.10 |
| **Miscellaneous.** | | | | | |
| Tokyo Electric Light Company, Limited | 50 | 50 | 12% | June and Dec. | ,, 81.00 |
| Tokyo Gas Company, Limited | 50 | 50 | 13% | July and Jan. | , 101.60 |
| Yokohama Union Electric Light Company, Limited | 50 | 50 | 14% | June and Dec | ,, 107.00 |
| Fuji Paper Mills | 50 | 50 | 6% | June and Dec. | ,, 31.00 |
| Otaru Timber Company, Limited | 50 | 50 | ....... | March and Sept. | ,, 33.00 |
| Hoden Petroleum Company, Limited | 50 | 50 | 20% | April and Oct. | ,, 52.50 |
| Tokyo Rope Manufacturing Company, Limited | 50 | 50 | 18% | June and Dec. | ,, 112.00 |
| Japan Horse Improvement Company, Limited | 50 | 50 | ....... | March and Sept. | ,, 13.50 |
| Tokyo Stock Exchange Company | 50 | 50 | 15 1/5% | June and Dec. | ,, 174.50 |
| Osaka Electric Light Company, Limited | 50 | 50 | 16% | July and Jan. | ,, 103.00 |
| Kobe Electric Light Company, Limited | 50 | 50 | 14% | July and Jan. | ,, 105.50 |

# BANGKOK SHARE QUOTATIONS

(Courtesy Messrs. Edwards & Co., Bangkok, Siam.) Oct. 28, 1910

| Name. | Buyers. | Sellers. | Last Sales. | Established. | Capital. | No. of Shares. | Issue Value. | Amount Paid Up. | Reserve Fund | Last Dividend |
|---|---|---|---|---|---|---|---|---|---|---|
| Siam Electricity Co., Ltd | Tcs. 300 | Tcs. 325 | Tcs. 325 | 1901 | £ 300,000 | 80,000 | £ 10— | £ 800,000 | Tcs. 491,388 | 12% Tcs. 4 bon. |
| Paknam Railway Co., Ltd | ,, 200 | ,, — | ,, 220 | 1893 | Tcs. 400,000 | 5,000 | Tcs. 80 | Tcs. 400,000 | ,, 7,566 | 14% |
| Siam Tramway Co., Ltd | ,, — | ,, — | ,, 108 | 1905 | ,, 1,450,000 | 6250 Shares<br>7250 Deb.<br>1000 P. Shares | ,, 100 | ,, 2,230,000 | ,, 1,875 | — |
| Meklong Railway Co., Ltd | ,, 90 | ,, 100 | ,, 90 | 1907 | ,, 2,230,000 | 22,300 | ,, 100 | ,, 223,000 | ,, 28,000 | 5% |
| Bangkok Manufact. Co., Ltd | ,, — | ,, — | ,, 132 | 1898 | ,, 400,000 | 4,000 | ,, 100 | ,, 400,000 | ,, 60,000 | 7% per for 6 months |
| Bangkok Dock Co., Ltd | ,, — | ,, 135 | ,, 135 | 1865 | ,, 1,000,000 | 10,000 | ,, 100 | ,, 950,000 | ,, 220,000 | |
| Siam Steam Packet Co. | ,, 80 | ,, 909 | ,, 90 | 1898 | ,, 190,000 | 3,800 | ,, 50 | ,, 190,000 | ,, 34,000 | 5% |
| Siam Commercial Bank | ,, 1,000 | ,, 1,500 | ,, 1,000 | 1906 | ,, 3,000,000 | 3,000 | ,, 1,000 | ,, 3,000,000 | ,, 338,850 | 4% for 6 mos. |
| Menam Motor Boat Co. | ,, 75 | ,, 90 | ,, 90 | 1905 | ,, 200,000 | 2,000 | ,, 100 | ,, 200,000 | — | none |
| Transport Co., Motor | ,, — | ,, 75 | ,, 100 | 1906 | ,, 200,000 | 2,000 | ,, 100 | ,, 200,000 | — | — |
| Jenderata Rubber Co * | ,, — | ,, 325— Ticals | ,, 325 (for six calls) | 1906 | £ 40,000 | 4,000 | £ 10 | £ 7.-paid | — | — |
| Bagan Rubber Co. | ,, — | ,, 100 | ,, 100 | 1907 | Tcs. 300,000 | 3,000 | Tcs. 100 | Tcs. 40 per share | — | — |
| Siam Steam Navigation Co., Ltd | ,, 300 | ,, 325 | ,, — | 1909 | ,, 2,000,000 | 10,000 | ,, 200 | — | ,, 10,000 | — |
| Siam Stone Works, Ltd | ,, — | ,, — | 100 | 1909 | ,, 350,000 | 3,500 | ,, 100 | ,, 350,000 | — | 6% half year |
| Kombok Rubber Co | ,, 25 | ,, 35 | 32 | 1906 | $ 300,000 | 30,000 | $ 100 | $7, per Share | — | — |

# PHILIPPINE SHARE REPORT

COURTESY B. A. GREEN, GENERAL SHARE, BOND AND INVESTMENT BROKER.—*Manila, P. I., November 10, 1910.*

| Name | Closing Quot'n | When Incorporated | Authorized Capital | Issue Value of Shares | Number of Shares | Number of Shares Subscribed | Paid up | Reserve Fund | Working Account | Date | Last Dividend |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **American Drug Store** | | 1908 | ₱ 100,000 | ₱1,000 | 100 | 51 | ₱1,000 | ₱5,000 | ₱ 50,000 | June 30, 1910. | |
| Antamok Valley Mining Co | ₱0.40 | 1909 | 500,000 | 1 | 500,000 | 320,000 | 1 | | | | First year |
| **Banco Español Filipino** | ₱242. | 1851 | 3,000,000 | 200 | 15,000 | 12,980 | 200 | 408,715 | | July 1, 1910. | 5% First Half 1910 |
| Bayhay Valley Oil Co | 100. | 1909 | 100,000 | 100 | 1,000 | | 100 | | | | First year |
| Benguet Commercial Co | 85. | 1908 | 200,000 | 100 | 2,000 | 736 | 100 | | | | 8% for 1906 |
| **Benguet Consolidated Mining Co** | 0.50 | 1903 | 2,000,000 | 2 | 1,000,000 | 495,000 | 2 | | | | |
| **Bua Mining Co.** | | | | | | | | | | | |
| Common | 90. | 1905 | 750,000 | 100 | 7,000 | 3,366 | 100 | | | | |
| Preferred | 140. | | | 100 | 500 | 500 | 100 | | | | |
| **Cadwallader-Gibson Lumber Co** | | 1908 | 1,000,000 | 100 | 10,000 | 8,650 | 100 | | | | |
| **Camote-Clayton Mining Co** | | 1909 | 400,000 | 10 | 40,000 | 26,000 | 10 | | | | First year |
| **Compania Maritima** | 50. | 1894 | 510,000 | 100 | 5,100 | 5,100 | 100 | | | | 20% for 1902 |
| East Batan Coal Mining Co | 33. | 1909 | 3,000,000 | 50 | 60,000 | 40,000 | 50 | | | | First year |
| **El Varadero de Manila** | 75. | 1885 | 450,000 | 100 | 4,500 | 4,500 | 100 | 288,955 | 134,715 | Aug. 31, 1910 | 3½% interim 1910 |
| **Electrical Supply Co** | | 1909 | 100,000 | 100 | 1,000 | 280 | 72 | | | | First year |
| **Export & Import Lumber Co** | | 1908 | 200,000 | 200 | 1,000 | 1,000 | 200 | | | | |
| Escolta Press Inc | 105. | 1907 | 50,000 | 100 | 500 | 320 | 100 | | | | 12% for 1909 |
| **Fabrica de Hielo de Manila** | 60. | 1894 | 350,000 | 50 | 7,000 | 7,000 | 50 | | | | 9% interim for 1910 |
| **Germinal Cigar Factory** | 500. | 1900 | 1,500,000 | 500 | 3,000 | 3,000 | 500 | | | | 12% for 1909 |
| **H. E. Heacock & Co** | | 1909 | 100,000 | 100 | 1,000 | 800 | 100 | | | | First Year |
| **Headwaters Mining Co** | 10. | 1908 | 600,000 | 10 | 60,000 | 59,800 | 10 | | | | |
| **Insular Lumber Co** | 140. | 1907 | 2,000,000 | 200 | 10,000 | 9,000 | 200 | | | | |
| Lepanto Mining Co | | 1906 | 1,000,000 | 100 | 10,000 | 8,000 | 100 | | | | |
| **Juan Seiboth Co** | | 1908 | 150,000 | 20 | 7,500 | 500 | 20 | | | | |
| **La Concha Button Factory** | 90. | 1905 | 75,000 | 100 | 750 | 530 | 100 | | | | 15% for 1909 |
| Los Banos Improvement Co | 200. | 1908 | 100,000 | 200 | 500 | 500 | 200 | | | | 16% for 1908 |
| **Lambert, Springer Co** | | 1908 | 200,000 | 1,000 | 200 | 80 | 1,000 | | | | |
| **Luzon Stevedoring Co** | 25. | 1909 | 250,000 | 25 | 10,000 | 4,200 | 25 | | | | |
| Luzon Sugar Refining Co | 18. | 1882 | 700,000 | 100 | 7,000 | 7,000 | 100 | | | | 3% for 1907 |
| Manila Electric Ry. & Light Co | 125. | 1903 | 12,000,000 | 200 | 60,000 | | 200 | | | | 4% for 1909 |
| Manila Hotel Co | 100. | 1909 | 400,000 | 100 | 4,000 | 3,500 | 100 | | | | Under Construction |
| Mindanao Herald Publishing Co | | 1907 | 15,000 | 100 | 150 | 75 | 100 | | | | ½% for 1908 |
| Muyot Mining Co | 3. | 1909 | 500,000 | 10 | 50,000 | | 10 | | | | First Year |
| **Paracale Gold Dredging Co** | 15. | 1907 | £10,000 | £1 | 10,000 | 10,000 | £1 | | | | £1 for 1908-9 |
| Paracale Ext. Gold Dredging Co | 10. | 1909 | ₱450,000 | ₱10 | 45,000 | | ₱10 | | | | First Year |
| **Philippine Publishing Co** | 120. | 1907 | 600,000 | 200 | 3,000 | 2,187 | 200 | | | | 10% interim for 1910. |
| **Philippine Co., Ltd** | 5. | 1904 | 750,000 | 10 | 75,000 | 75,000 | 10 | | | | |
| **Philippine Gold Dredging Co** | 10. | 1907 | 200,000 | 10 | 20,000 | 20,000 | 10 | | | | |
| **Philippine Exploration Co** | 10.00 | 1908 | 2,000,000 | 10 | 200,000 | 120,000 | 10 | | | | |
| **Port Banga Lumber Co** | | 1908 | 100,000 | 100 | 1,000 | 934 | 100 | | 40,000 | Oct 1, 1910. | |
| **Rosenstock Publishing Co** | | 1908 | 75,000 | 10 | 7,500 | 6,000 | 10 | | | | |
| **San Nicolas Iron Works** | 100. | 1901 | 300,000 | 500 | 600 | 600 | 500 | | | | 15% for 1903 |
| **San Mauricio Gold Mining Co** | 35. | 1908 | 4,000,000 | 200 | 20,000 | 20,000 | 200 | | | | |
| Sanitary Steam Laundry | 22. | 1908 | 100,000 | 20 | 5,000 | 3,900 | 20 | | | | |
| **Tarlac Railway Co** | 65. | 1906 | 150,000 | 100 | 1,500 | 1,500 | 100 | | | | |
| **Tumbaga Mining Co** | 13. | 1909 | 1,000,000 | 40 | 25,000 | 24,125 | 40 | | | | First Year |
| **Union Hemp Machine Co** | | 1909 | 50,000 | 10 | 5,000 | 2,600 | 10 | | | | First Year |
| Walter E. Olsen Co | 100. | 1909 | 500,000 | 100 | 5,000 | 2,033 | 100 | | | | First Year |
| **Zamboanga Cold Storage Co** | 125. | 1903 | 40,000 | 100 | 400 | 200 | 100 | | | | 20% for 1909 |

# PHILIPPINE BONDS

| | Dated | Authorized | Issued | Outstanding | Par Value | Rate of Int. | When payable | Last Quotation |
|---|---|---|---|---|---|---|---|---|
| Philippine Friar Land Bonds | Feb. 1st, 1904 | $7,000,000 | $7,000,000 | $7,000,000 | $ 100 | 4% | Feb. 1, 1914 | 104⅝ |
| Public Works and Permanent Improvement Bonds | March 1, 1905 | $5,000,000 | $2,500,000 | $2,500,000 | $ 100 | 4% | March 1, 1915 | 104⅝ |
| Do. | Feb. 1, 1906 | | $1,000,000 | $1,000,000 | $ 100 | 4% | Feb. 1, 1916 | 104⅝ |
| Manila Sewer and Water Works Improvement Bonds | June 1, 1905 | $4,000,000 | $1,000,000 | $1,000,000 | $ 100 | 4% | June 1, 1915 | 104⅛ |
| Do. | Jan. 2, 1907 | | $2,000,000 | $2,000,000 | $ 100 | 4% | Jan. 2, 1917 | 104⅝ |
| Philippine Railway First Mortgage Four per cent Thirty Year Sinking Fund Gold Bonds | July 1, 1907 | $15,000,000 | $5,736,000 | $5,736,000 | $1000 | 4% | July 1, 1937 | 97 |
| B. P. O. Elks First Mortgage 7% Five-Fifteen Year Sinking Fund Gold Bonds | July 1, 1908 | $75,000 | $75,000 | $75,000 | $ 50 | 7 | July 1, 1923 | 50½ |

***Payment of interest guaranteed until maturity or redemption by the Philippine Government.**

*Professional Cards*

**CEMENT TESTS**

**Made according to the latest British Standard Specification, or to any other, as required : : : :**

**COAL TESTS**

**Ordinary tests. Caloriphic value. Elementary analysis**

**MINING INSTITUTE AND ANALYTICAL LABORATORY**

**Dr. LIVIO SILVA**

EXAMINATIONS AND REPORTS FOR FINANCING

CABLE ADDRESS: "YOUNGENG" NEW YORK

**C. G. Young**

Engineering and Construction, Steam and Electric Railways, Public Utilities and Industrials, REPORTS for FINANCING.

IN ANY PART OF THE WORLD -:- SIXTY WALL ST., NEW YORK

# ALPHABETICAL LIST OF ADVERTISERS


| Advertiser | Page |
|---|---|
| Ackley Adjustable Brake Co. | 32 |
| Alhambra Cigar & Cigarette Factory | 31 |
| Allis-Chalmers Co. | 64 |
| American Bank Note Co. | 63 |
| American Asiatic S. S. Co. | 31 |
| American Locomotive Co. | 50 |
| American Hardware & Plumbing Co. | 28 |
| Anderson & Co., Wm. H. | 41 |
| Anderson, Meyer & Co. | 80 |
| Arnhold Karberg & Co. | 19 |
| Astor House Hotel Co. | 55 |
| Baldwin Locomotive Works | 32-51 |
| Banco Español Filipino | Cover |
| Bell, David W. | 18 |
| Bohler Bros & Co. | 57 |
| British American Tobacco Co., Ltd. | 85 |
| Cadwallader-Gibson Lumber Co. | 28 |
| California-Manila Lumber Co. | 21 |
| Carmichael & Clarke | 10 |
| Chee Hsin Cement Co., Ltd. | 42 |
| China Import Export Lumber Co. | 61 |
| China Merchants Steam Nav. Co. | 38 |
| China Mutual Life Insurance Co. | 59 |
| China and Manila S. S. Co. | 31 |
| Chinese Eng. & Mining Co. | Cover |
| Chinese Eastern Railway | 16 |
| Cia. General de Tabacos Filipinas. | 86 |
| Cia. Trasatlantica | 36 |
| Clarke, M. A. | 44 |
| Cook's Sons, Adam | 61 |
| Defiance Machine Works | 20 |
| Derham Bros | 23 |
| Detroit Engine Works | 29 |
| Deutsch-Asiatische Bank | 1 |
| Dickeson, Jones & Co. | 48 |
| Dollar, Co., The Robert | 39 |
| Earnshaw, M & Co., Inc. | 7 |
| East Asiatic Dredging Co. | 27 |
| Eastern Engineering Co. | 5 |
| Electrical Supply Co. Inc. | 60 |
| Export and Import Lumber Co. | 28 |
| Fearon, Daniel & Co. | 13-30 |
| Fairbanks Morse & Co. | 64 |
| Ferro Machine & Foundry Co. | 29 |
| Fox Typewriter | 38 |
| Fressel, C. & Co. | 24 |
| Fushun Coal | 3 |
| Gardner Governor Co. | 32 |
| General Electric Co. | 20 |
| Germann & Co., Ltd. | 28 |
| Germinal Cigar Factory | 35 |
| Gordon & Co. | 4 |
| Grand Rapids Gas Engine & Yacht Co. | 29 |
| Gray Motor Co. | 29 |
| Green Island Cement Co., Ltd. | 40 |
| Greilsammer Bros. | 24 |
| Han-yeh-Ping Iron & Coal Co. Ltd. | 65 |
| Hanyang Iron & Steel Works | 61 |
| Harvey, Stuart S. | 45 |
| Hongkong Rope Mfg. Co., Ltd. | 31 |
| Hongkong & Shanghai Banking Corp. | Cover |
| Hongkong & Whampoa Dock Co., Ltd. | 10 |
| Honolulu Iron Works Co. | 60 |
| Hotel de France | 57 |
| Hupeh Cement Co. | 42 |
| Imperial Hotel, Ltd. | 52 |
| International Correspondence Schools | 13 |
| International Cold Stores, Ltd. | 41 |
| International Banking Corp. | Cover |
| Jardine, Matheson & Co. | 25 |
| Johnson-Pickett Rope Co. | 10 |
| Kawasaki Dockyard Co. Ltd. | 7 |
| Kiangnan Dock & Engineering Works | 8 |
| La Parisien Carriage Factory | 84 |
| Lambert-Springer Co. | 60 |
| Lodge & Shipley Machine Tool Co. | 27 |
| Malthoid | 60 |
| Melchers & Co. | 52 |
| Middleton & Co. Ltd. | 43 |
| Michigan Steel Boat Co. | 62 |
| Mitsu Bishi Dockyard & Eng. Works | 6 |
| Mitsui Bussan Kaisha | 5-47 |
| Morse & Son, A. J. | 150 |
| Murray, Wilbur H. Mfg. Co. | 34 |
| New Metropole Hotel | 52 |
| New Engineering and Shipbuilding Works, Ltd. | 11 |
| New York Engineering Co. | 58 |
| Nicholson, C. S. | 6 |
| Nippon Yusen Kaisha | 39 |
| North British Locomotive Co. Ltd. | 49 |
| Olsen & Co., Walter E. | Cover |
| Pacific Mail S. S. Co. | 37 |
| Pacific Tank and Pipe Co. | 60 |
| Paraffine Paint Co. | 62 |
| Philippine Islands | 2 |
| Port Banga Lumber Co. | 24 |
| Racine, Ackermann & Co. | 41 |
| Remington Typewriter Co. | 83 |
| Rose, Downs & Thompson, Ltd. | 46 |
| Russo Asiatic Bank | 1 |
| San Miguel Brewery | 4 |
| Santa Mesa Rope Works | 13 |
| Schuchardt & Schütte, Berlin | 43 |
| Shanghai Dock & Eng. Co., Ltd. | 12 |
| Shanghai Electric and Asbestos Co., Ltd. | 46 |
| Shanghai Gas Co., Ltd. | 28 |
| Shanghai Nanking Railway | 15 |
| Shanghai Machine Co. | 26 |
| Shanghai Waterworks Co. Ltd. | 50 |
| Shewan, Tomes & Co. | 48 |
| Siemens China Electrical Engineering Co. | 17 |
| Siemssen & Co. | 22 |
| Southern Pacific Co. | 57 |
| South Manchuria Railway Mining Dept. | 3 |
| South Manchuria Railway | 14 |
| Stevenson & Co., Ltd., W. F. | 10 |
| Strong, Frank L. | 45 |
| Superior Wrench Co. | 29 |
| Swift & Co. | 82 |
| Taikoo Dockyard and Engineering Company of Hongkong, Ltd. | 9 |
| Thompson F. H. | 61 |
| Toyo Kisen Kaisha | 37 |
| Truscott Boat Mfg. Co. | 60 |
| Trussed Concrete Steel Co. | 33 |
| Tsingtauer Werft | 46 |
| United States Steel Products Export Co. | 51-56-57 |
| Vander Loo & Co. F. A. | 31 |
| Vulcan Iron Works | 34 |
| Vulcan Iron Works Ltd. | 13 |
| Warner Barnes & Co., Ltd. | 21 |
| Wen Ming Press | 26 |
| White & Co. (Inc.), J. G. | 62 |
| Western Electric Co. | 60 |
| Westinghouse Brake Co., Ltd. | 59 |
| Wood Waste Distilleries Co. | 48 |
| Woosung Car Shops | 53 |
| W. T. Henley's Telegraph Work Co., Ltd. | 18 |
| Ynchausti & Co. | 27 |
| Yokohama Specie Bank | 1 |
| Young, C. G. | 149 |
| Zimmerman Steel Co. | 62 |


## Classified Advertisers' Directory

*(Please mention this journal)*

**AGRICULTURAL IMPLEMENTS**
Anderson & Co., W. H.
Germann & Co., Ltd.

**ALCOHOL DISTILLERS**
Cia. General de Tabacos de Filipinas.
Ynchausti & Co.
Wood Waste Distilleries Co

**ASBESTOS GOODS**
Shanghai Electric & Asbestos Co., Ltd.

**BANKS**
Deutsch-Asiatische
Hongkong and Shanghai Banking Corp.
International Banking Corp.
Banco Español Filipino
Russo-Chinese Bank
Yokohama Specie Bank, Ltd.

**BOILER MAKERS**
Babcock & Wilcox (D. W. Bell)

**BOILERS (PATENT WATER TUBE STEAM)**
General Electric Co.
Jardine Matheson & Co.

**BREWERIES**
San Miguel Brewery

**BRIDGE-BUILDERS**
Atlantic, Gulf and Pacific Co
White & Co., Inc., J. G.

**BROKERS, GENERAL**
C. S. Nicholson

**BUILDING MATERIALS**
California-Manila Lumber Com. Co.
Malthoid Paraffine Paint Co.
W. H. Anderson & Co.
Samuel McGregor & Co.

**CABLES, TELEPHONE, TELEGRAPH SUPPLIES**
David W. Bell
W. T. Henley's Telegraph Works Co., Ltd.
Melchers & Co.

**CARRIAGES**
Wilbur H. Murray Mfg. Co.

**CEMENT**
Anderson & Co., W. H.
Chee Hsin Cement Co., Ltd.
Chinese Engineering and Mining Co., Ltd.
Green Island Cement Co., Ltd.
Racine, Ackermann & Co.

**CIGAR AND CIGARETTE MANUFACTURERS**
Alhambra Cigar & Cigarette Factory.
Castle Bros.-Wolf & Sons
Cia. Gral. de Tabacos de Filipinas
Germinal Cigar Factory
Olsen & Co., Walter E.

**CIVIL ENGINEERS**
Eastern Eng. Co.
C. G. Young

**COAL DEALERS**
Chinese Engineering and Mining Co., Ltd.
The Mitsui Bussan Kaisha
South Manchuria Railway Co.
The Han-Yeh-Ping Iron & Coal Co. Ltd.

**COAL HANDLING MACHINERY**
Atlantic, Gulf & Pacific Co.

**COFFEE DEALERS (WHOLESALE)**
M. A. Clarke (Mayon)

**CONTRACTORS, (GENERAL)]**
Bohler Bros. & Co.
Frank L. Strong
Germann & Co., Ltd.
Gordon & Co.
Lambert-Springer Co.
Siemssen & Co.
White, & Co. Inc., J. G.

**CONTRACTORS, ELECTRICAL**
Arnhold, Karberg & Co.
Electrical Supply Co. Inc.
Germann & Co., Ltd.
Shanghai Electric & Asbestos Co., Ltd.
Shewan Tomes & Co.
Frank L. Strong
Siemens Shuckert
Siemssen & Co.

**CONSULTING ENGINEERS**
Carmichael & Clarke.
Germann & Co., Ltd.
White & Co., Inc. J. G.
C. G. Young

**DIVING APPARATUS**
A. J. Morse & Son

**DREDGERS**
Dickeson, Jones & Co.
Melchers & Co.
New York Engineering Co.
Rose, Downs & Thompson, Ltd.

**DRY CELLS**
F. H. Thompson.

**EDUCATIONAL**
I. C. S. Correspondence Schools.

**ELECTRIC LIGHTING PLANTS**
Anderson Meyer & Co.
Arnhold, Karberg & Co.
Electrical Supply Co. Inc.
Fearon, Daniel & Co.
General Electric Co.
Germann & Co., Ltd.
Siemens Shuckert
Siemssen & Co.
Shewan, Tomes & Co.
Western Electric Co.

**ELECTRICAL SUPPLIES**
Allis-Chalmers Co.
Anderson Meyer & Co.
Arnhold Karberg & Co.
Electrical Supply Co. Inc.
Jardine, Matheson & Co.
Babcock & Wilcox (D. W. Bell)
Belliss & Morcom (D. W. Bell)
Fearon, Daniel & Co.
General Electric Co.
Melchers & Co.
Shanghai Electric & Abestos Co. Ltd.
Shewan, Tomes & Co.
Siemens Shuckert
Siemssen & Co.
Western Electric Co.

**ENGINES (PUMPING)**
Allis-Chalmers Co.
Belliss & Morcom (D. W. Bell)
Siemssen & Co.

**EXCAVATORS AND ELEVATOR**
Dickeson, Jones Co.
Rose, Downs & Thompson, Ltd
Siemssen & Co.

**EXPLOSIVES**
Jardine Matheson & Co.

**FIBRE MACHINERY**
Dailey, C. E.

**FOOD PRODUCTS**
Anderson & Co., W. H.
Swift & Co.

**GAS. ENGINES**
Fairbanks, Morse & Co.
Castle Bros.-Wolf & Sons
Detroit Engine Works
Shanghai Gas Co., Ltd.
Truscott Boat Mfg. Co.
Melchers & Co.

**HARDWARE**
Springer-Lambert Co.

**HOTELS**
Astor House Hotel Co.
Hotel St. Francis
Tokyo Imperial Hotel
New Metropole Hotel

**ICE MACHINERY**
Vulcan Iron Works
Melchers & Co

**INJECTORS**
Penberthy Injector Company.

**INSURANCE**
Stevenson & Co., Ltd., W. F.

**JOURNALS, SCIENCE**
The Philippine Journal of Science

**LIFE INSURANCE**
China Mutual Life Insurance Co., Ltd.
Shanghai Life Insurance Co., Ltd.

**LITHOGRAPHERS**
The Wen Ming Press.

**LUMBER DEALERS**
Cadwallader-Gibson Lumber Co.
California-Manila Lumber Com. Co.
Robert Dollar Co.
Export and Import Lumber Co.
Jardine, Matheson & Co.
Port Banga Lumber Co.

**MACHINERY MERCHANTS**
Anderson, Meyer & Co.
Arnhold Karberg & Co.
Shanghai Machine Co.
Fearon, Daniel & Co.
Frank L. Strong
Stuart S. Harvey
Siemssen & Co.
Schuchardt & Schutte.

**MARINE ENGINES**
Fairbanks Morse & Co.
Truscott Boat Mfg. Co.
Grand Rapids Gas, Engine & Yacht Co.

**MILL MACHINERY**
Rose, Downs & Thompson Ltd.

**MINING MACHINERY**
Allis-Chalmers Co.
Germann & Co., Ltd.
Melchers & Co.
New York Engineering Co.
Shewan, Tomes & Co.
Siemssen & Co

**MINING COMPANIES**
Chinese Engineering & Mining Co.
South Manchuria Railway Co.
Mitsui Bussan Kaisha

**MOTORS**
Grand Rapids Gas, Eng. & Yacht Co.
The Gray Motor Co.
The Ferro Machine & Foundry Co.

**MOTOR LAUNCHES**
Earnshaw, M. & Co.
Gas Engine & Power Co. and Charles L. Seabury & Co. (Consolidated)
Fairbanks, Morse & Co.
Michigan Steel Boat Co.

**OFFICE FURNITURE**
Cadwallader-Gibson Lumber Co.

**PAINTS OILS AND VARNISH**
F. A. Vander Loo & Co.
Lambert-Springer Co.
Shanghai Electric & Asbestos Co., Ltd.
Adam Cook's Sons

**PULLEYS (STEEL)**
Schuchardt & Schütte

**PUMPS**
Shewan, Tomes & Co.
Jardine Matheson & Co.
Henry R. Worthington.
Shanghai Machine Co.
The Gardner Governor Co.

**RAILROADS**
Chinese Eastern
Shanghai-Nanking.
South Manchuria
Southern Pacific Co.

**RAILROAD SUPPLIES**
Ackley Brake Co.
American Locomotive Co.
Anderson, Meyer & Co.
Arnhold Karberg & Co.
Baldwin Locomotive Works.
Fearon, Daniel & Co.
Jardine, Matheson & Co., Ltd.
Mitsui Bussan Kaisha
Siemssen & Co.
Westinghouse Brake Co., Ltd.
Shewan Tomes & Co.
Shanghai Machine Co.

**REINFORCED CONCRETE CONSTRUCTION**
Trussed Concrete Steel Co.

**ROOFING PAPER**
Malthoid

**ROPE MANUFACTURERS**
Hongkong Rope Mfg. Co., Ltd.
Santa Mesa Rope Works.
Ynchausti & Co.

**SANITARY ENGINEERING**
Gordon & Co.
Lambert-Springer Co.

**SAW MILLS**
Export and Import Lumber Co.
Insular Lumber Co.
Jardine, Matheson & Co.
Cadwallader-Gibson Lumber Co.
Port Banga Lumber Co.

**SERUM**
Bureau of Science

**SHIP-CHANDLERY**
Ynchausti & Co.

**SHIPPING AGENTS**
Castle Bros.-Wolf & Sons
Cia. General de Tabacos
Shewan, Tomes & Co.
Stevenson & Co., Ltd.
Warner, Barnes & Co., Ltd.

**SHIPBUILDING AND REPAIRS**
Tsingtauer Werft
Hongkong & Whampoa Dock Co., Ltd.
The Kawasaki Dockyard Co. Ltd.
Kiangnan Dock and Engineering Co., Ltd.
Mitsu Bishi Dock and Engineering Works
New Engineering and Shipbuilding Works, Ltd.
Shanghai Dock and Engineering Co., Ltd.
The Taikoo Dockyard and Engineering Company of Hongkong, Limited
Earnshaw, M. & Co.
Vulcan Iron Works, Ltd.

**STEAMSHIP COMPANIES**
American Asiatic S. S. Co.
China and Manila S. S. Co., Ltd.
China Merchants Steam Nav. Co.
Cia. General de Tabacos
Nippon Yusen Kaisha
Occidental and Oriental S. S. Co.
Pacific Mail S. S. Co.
Toyo Kisen Kaisha S. S. Co.
Transatlantica S. S. Co.
Ynchausti & Co.

**STEEL MANUFACTURERS**
United States Steel Products Export Co.
Zimmerman Steel Co.

**STEEL WORKS**
Bohler Bros. & Co.
The Han-Yeh-Ping Iron and Coal Co. Ltd.
Hanyang Iron & Steel Works.

**STRUCTURAL STEEL**
Bohler Bros. & Co.
A. Gulf & Pacific Co.

**SUGAR MACHINERY**
Honolulu Iron Works.

**TANKS**
Atlantic, Gulf & Pacific Co.
Pacific Tank and Pipe Co.
Shanghai Dock & Engineering Co., Ltd.

**TELEPHONES**
The Western Electric Co.

**TILES AND BRICKS**
C. Fressel & Co.
Green Island Cement Co., Ltd
Chinese Eng. Mining Co.

**TOBACCO DEALERS**
British American Tobacco Co., Ltd
Cia. General de Tabacos
Olsen & Co., Walter E.

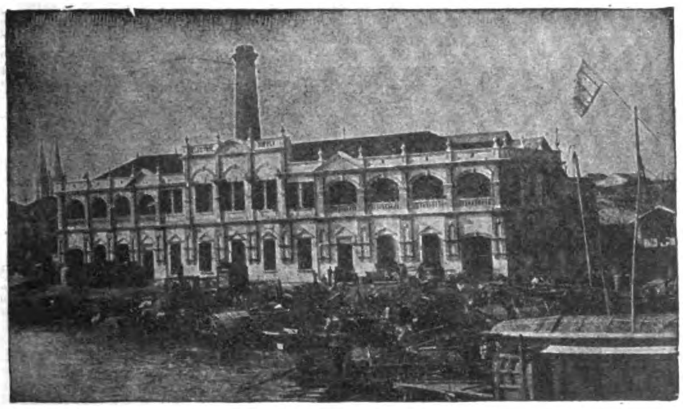
**TOOLS**
Lodge & Shipley Machine Tool Co.
Shanghai Machine Co.
Lambert-Springer Co.

**TYPEWRITERS**
The Fox Typewriter
Remington Typewriter Co.

**WINDMILLS**
Fairbanks, Morse & Co.
Defiance Machine Works.


J. J. CHOLLOT
INGENIEUR DES PONTS ET CHAUSSEES
CIVIL ENGINEER, SURVEYOR AND ARCHITECT
53 QUAI DU YANG-KING-PANG, SHANGHAI

A. J. MORSE & SON, INC.
221 High St., Boston, Mass., U. S. A.
ESTABLISHED 1837
DIVING APPARATUS
Special Apparatus built to order
FRANK L. STRONG, Agent -:- 24 Calle Echague, Manila, P. I.



ELECTRIC SUPPLY BUILDING, CANTON, CHINA. PURNELL & PAGET, ARCHITECTS AND ENGINEERS. BUILT KAHN SYSTEM OF REINFORCED CONCRETE.

EAST HALL, CANTON CHRISTIAN COLLEGE, CANTON, CHINA. STOUGHTON & STOUGHTON, ARCHITECTS, BUILT KAHN SYSTEM OF REINFORCED CONCRETE.

# KAHN SYSTEM

## OF REINFORCED CONCRETE

The modern way of building—Fireproof and Enduring—Costs nothing for maintenance and lasts forever.

Over 2500 *Kahn System* structures in all parts of the world—including Factories, Warehouses, Stores, Office Buildings, Hotels, Public Buildings, Bridges, Viaducts, Tunnels, Reservoirs, etc.—Over 50 important buildings for the United States Government.

Experts agree that reinforced concrete is the best building material for resisting earthquakes.

*Kahn System* controls exclusively:

**KAHN TRUSSED BARS**—for reinforcing concrete beams, girders and floors.

**RIB METAL**—for reinforcing slabs, walls, sewers and conduits.

**HY-RIB**—A self-centering reinforcement for floors and roofs. A unit of lath and studs for walls and partitions.

**RIB-LATH**—The best steel lath for plastering and stucco work.

**"TRUS-CON" CHEMICAL PRODUCTS**—for finishing and water-proofing concrete.

Our Engineering Department will be glad to assist you with designs and estimates.

Separate catalogues showing structures of every kind, giving detailed methods of design and describing our various *Kahn System* products.

## Trussed Concrete Steel Company

**HEAD OFFICE DETROIT, MICH., U. S. A.**

***Eastern Agencies:***

*PHILIPPINE ISLANDS*—California-Manila Lumber Commercial Co. Room 10, Lack & Davis Bldg., Manila, P. I.

*CHINA*—Arnhold, Karberg & Co., Hongkong, Canton, Newchwang, Tsingtau, Shanghai, Tientsin.

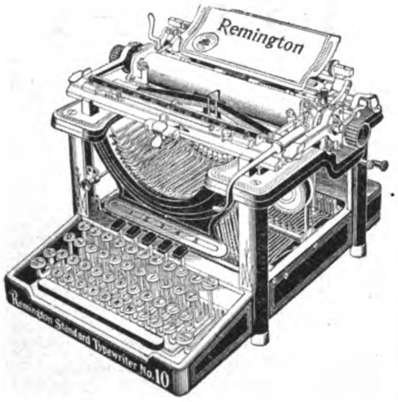
*JAPAN*—American Trading Co., Yokohama and Kobe.

*HAWAIIAN ISLANDS*—Honolulu Iron Works Co., Honolulu, T. H.

*The Development of the*

# Remington

*is the History of the Writing Machine*




## 10 AND 11 NEW MODELS NOW READY

**Model 10, with Column Selector**
**Model 11, with Built-in Tabulator**

## Remington Typewriter Company

(INCORPORATED)

**New York and Everywhere**

**McAlister & Co. Ltd., Singapore.**
**E. C. McCullough & Co., Manila.**
**Mustard & Co., Shanghai.**
**E. H. Tuska, Kobe and Yokohama.**

# THE FOX VISIBLE TYPE-WRITER

The STANDARD TYPEWRITER of the WORLD

**THE ONLY VISIBLE TYPEWRITER** having the strength, solidity, and durability of the best blind machines.

The **FOX** is the Typewriter that compelled every other typewriter manufacturer to get out a visible model—or go out of business.

The **FOX** has every improvement and attachment of the highest grade typewriter.

It combines "The good of the old with the best of the new."

**AGENTS WANTED**

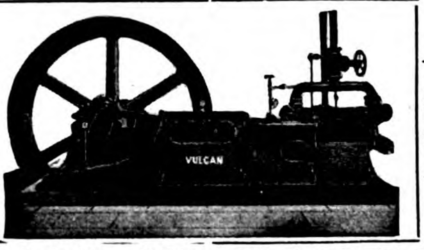
We offer the Standard Typewriter, Exclusive Territory, very liberal conditions, and every possible assistance to our representatives.

Write for free illustrated catalog and circulars

**FOX TYPEWRTER CO.** 970-990 FRONT STREET GRAND RAPIDS, MICH., U.S.A.

FEARON, DANIEL & CO., Shanghai, Agents for China

# ICE MACHINES
OF ANY DESIRED CAPACITY

VUL  CAN

## VULCAN IRON WORKS

San Francisco, California, U. S. A.

SEND FOR CATALOGUE     Cable Address: "VULCAN" San Francisco

No. E-5008
Cable Name "Chindiv n";
Price $169.75 (£35-7s 4d)
Crated and F. O. B. Vessell.
New York.

# Big Vehicle Values

"Murray" Vehicles and Harness at a Saving from 25 to 40%

Why buy vehicles and harness from a dealer when you can save from 25 to 40% by buying direct from **The Wilber H. Murray Mfg. Co.**, one of the best known vehicle, harness and saddle concerns in the world! "Murray" products are sold in every part of the world and are well known especially for our famous

## "Murray" Guarantee of Quality

Every **"Murray"** product is backed by our guarantee to be as represented, and you can be sure that you will make no mistake in dealing with us, as there is no question as to our responsibility and financial standing, and our honesty in dealing for the past 24 years has resulted in thousands of satisfied customers.

## The "Murray" Style Book No. 192 Absolutely Free

We cordially invite you to write for our **"Murray"** Style Book for 1910, which contains 152 pages, illustrating and describing 251 different designs, many of them in colors, among them 138 styles of carriages of the latest designs, 74 styles of harness and a fine saddle stock.

THE WILBER H. MURRAY MFG. CO.
321 to 329 East Fifth Street,     Cincinnati, Ohio, U. S. A.

No. E 5001 Cable Name "Chimoio". Price $46 75 (£9-14 S- 10 d) Crated and F O B Vessell New York



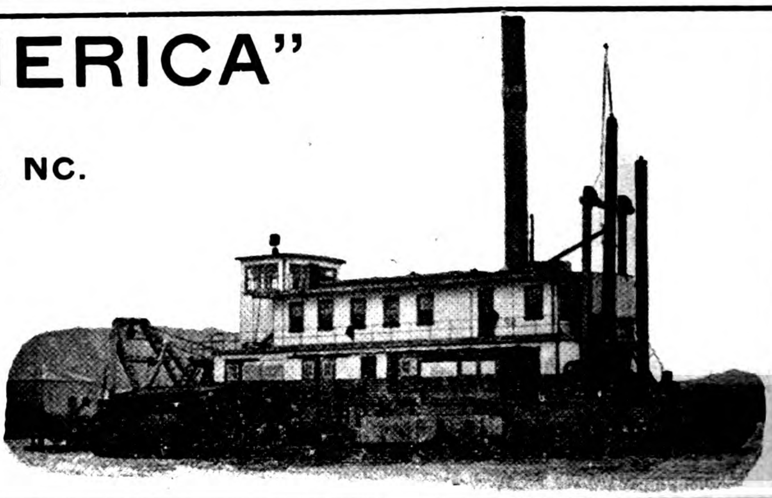
# DREDGE "AMERICA"
## FOR SALE
### J. G. WHITE & CO., NC.
MANILA, P. I.

16 inch Hydraulic Dredge, Capacity, 7500 gals. per Minute.

For sale at one half cost account closing out plant.

Perfect condition. Has been in service less than two years.

Ready for work now, with full equipment, pontoons, pipe, spare parts.



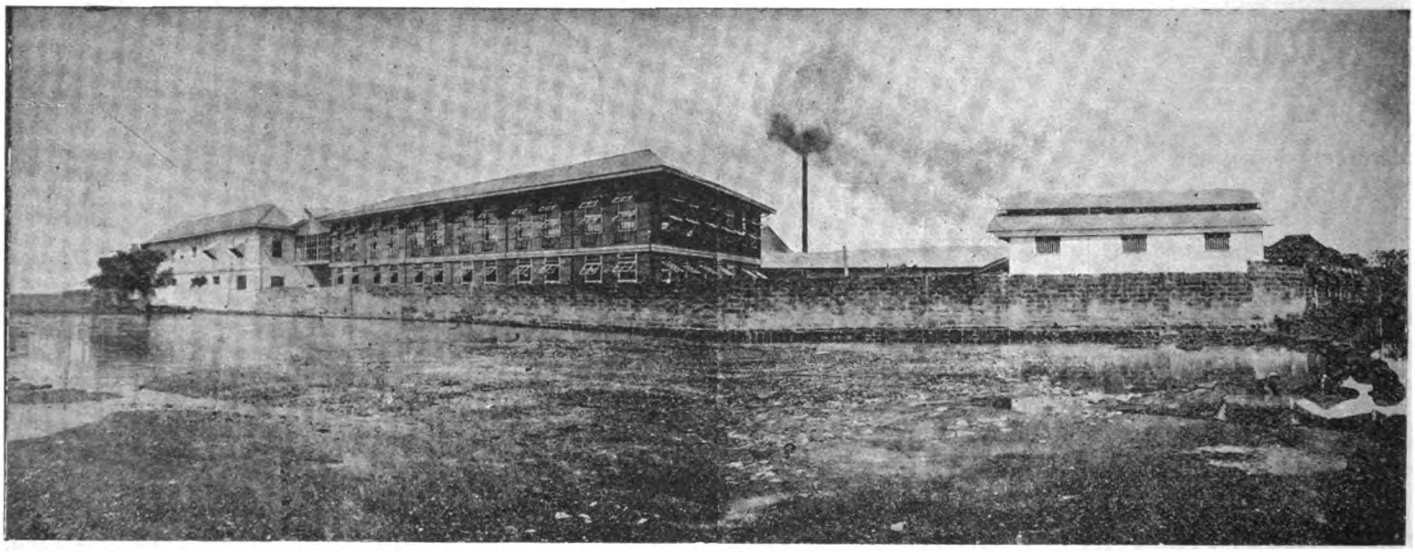


Cable Address: ALHAMBRA

# ALHAMBRA

P. O Box 301
Telephone 527

## Cigar and Cigarette Factory, Manila, P. I.



Most perfect sanitary installations and absolute cleanliness throughout the Factory in every department.

**View of the Factory from the Riverside.**

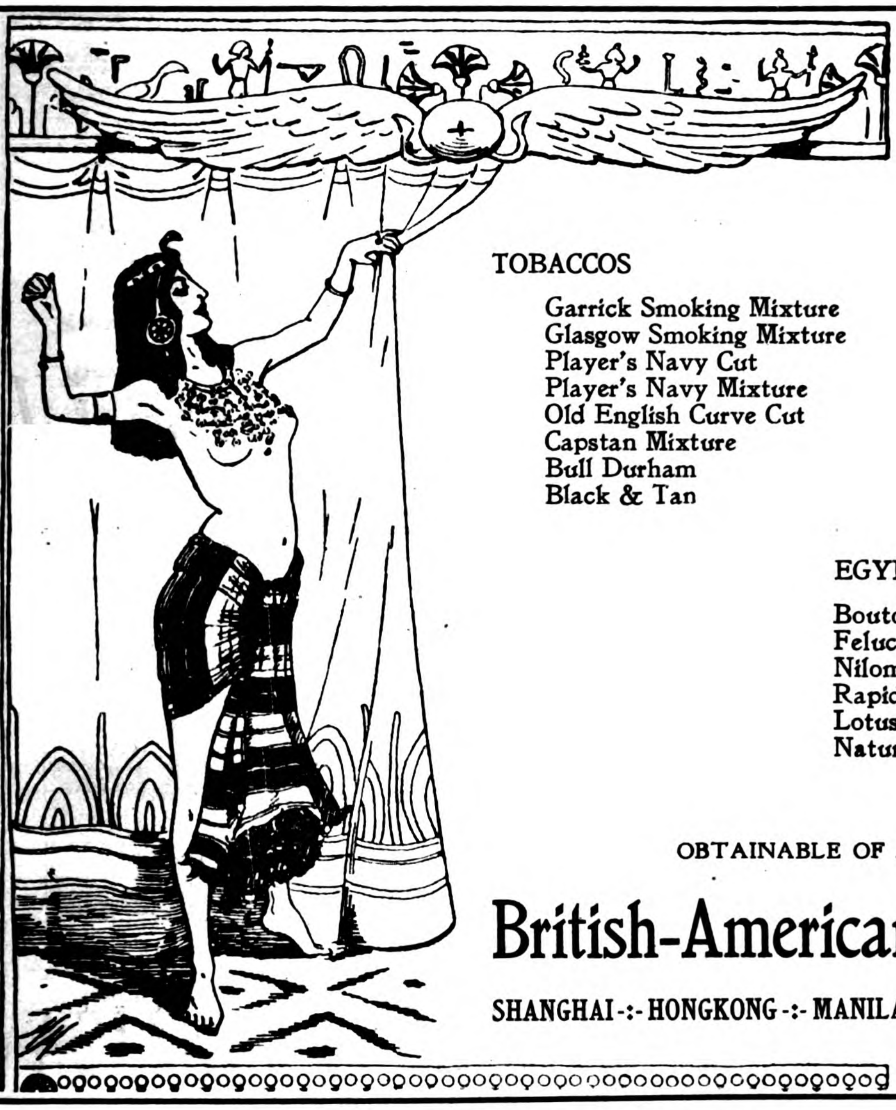
Well ventilated, airy working rooms. Everything under European expert supervision.

A few leaders:
**Divinos, Regalia, Alha., Excelentes, Perfectos, Especiales, High Life, Incomparables, Republicanos, Imperiales, Etc., Etc.**

Why the Best:
We use nothing but finest selected Isabela leaf.
We maintain the quality of each grade by strict supervision.
We combine quality, grade and price so as to give the best return for money.

Catalogs, Price Lists and Samples Furnished on application

KUENZLE & STREIFF, PROPS.



THE
*World's Best Products*

TOBACCOS

Garrick Smoking Mixture
Glasgow Smoking Mixture
Player's Navy Cut
Player's Navy Mixture
Old English Curve Cut
Capstan Mixture
Bull Durham
Black & Tan

VIRGINIAN CIGARETTES

Three Castles
Capstan Navy Cut
Sweet Caporal
Crosscut
Garrick, Gold Tipped
Garrick, Plain
Golden Honey Dew

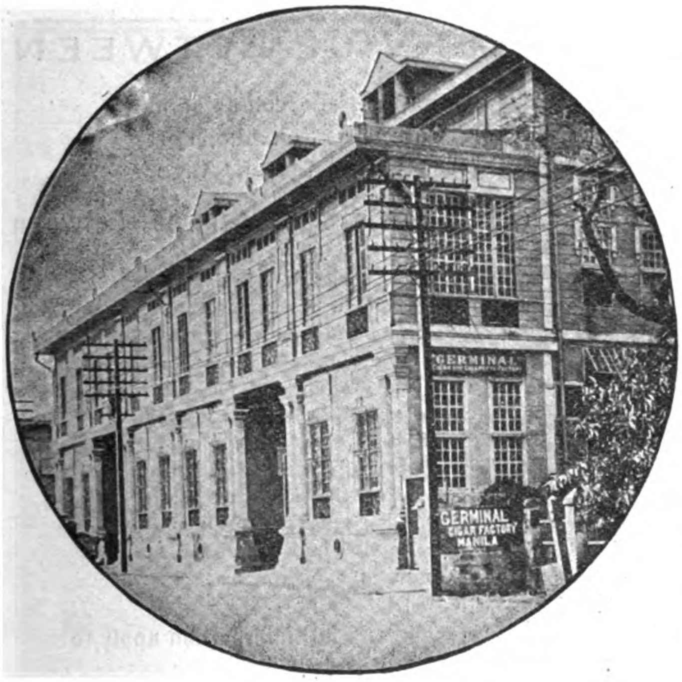
EGYPTIAN CIGARETTES

Bouton Rouge
Felucca
Nilometer
Rapido
Lotus
Natural

OBTAINABLE OF ALL DEALERS AND AT DEPOTS OF

**British-American Tobacco Company, Ltd.**

SHANGHAI -:- HONGKONG -:- MANILA -:- SINGAPORE -:- BANGKOK -:- COLOMBO -:- CHEMULPO




# "GERMINAL"

## Cigar and Cigarette Factory

4 Calle Marques de Comillas, Manila, P. I.

FOR A MILD CIGARETTE SMOKE TRY THE "FLOREAL"

"GERMINAL" MANILA. TRADE MARK

GERMINAL CIGARS THE UNIVERSAL FAVORITE

This means the approval of discriminating critics; and shows an appreciation of the delicious richness of the choicest tobacco leaf, the exquisite aroma of an original blend, the finished touch throughout of an expert's hand - - - - - - - - - -

# "FLOREAL" Cigarettes

"floreal" TRADE MARK

TELEGRAPHIC ADDRESS:
"TABACALERA"

HEAD OFFICE
BARCELONA

# COMPANIA GENERAL DE TABACOS DE FILIPINAS

**Established in 1882.** **Capital: £ 3,000,000**

Shipping Department, 63 Escolta.

—

Manila
General Office,
Calzada Marques de Comillas.

—

Retail Store,
63 Escolta.

BRANCHES AND AGENCIES

—

In the principal cities of the world and towns of the Philippines

—

Proprietors of the celebrated factories

## "La Flor de la Isabela"

High grade cigars manufactured with the most selected leaf grown in the estates of the Company.

SPECIAL BRANDS:

Pig's tails, Vegueros Especiales, Regalia A. Lopez, Regalia G. Pereire, Favoritos A. Lopez, Favoritos A. Correa, Perfectos Especiales, Exquisitos, Reina Victoria, etc.

**Excellent common brands.**

## "La Clementina"

Alcohol Manufactures—Gin—Distilled Spirits

**GENERAL IMPORTERS AND EXPORTERS**

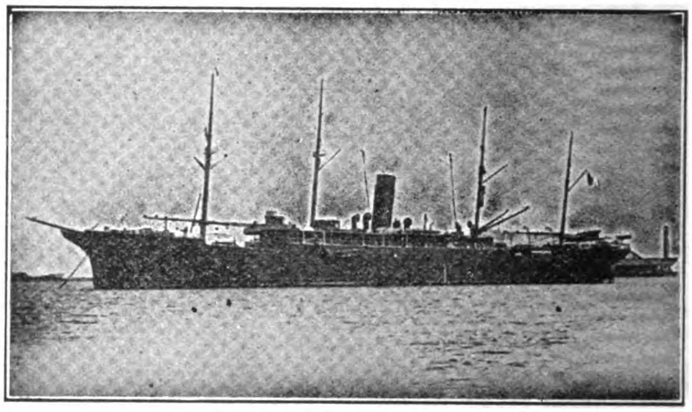
INTERISLAND STEAMERS

Under Government Contract and Inspection.
Electric Light. First Class Accommodation

**FAR EASTERN BRANCH AGENCIES:**

| | |
|---|---|
| YOKOHAMA | 240 Settlement. |
| SHANGHAI | J. DELBOURGO, 29 Rue du Consulat. |
| HONGKONG | A. R. MARTY, 2 Pedder-st. |

*Spanish Royal Mail*



S. S. ANTONIO LOPEZ

# C.ÍA TRANSATLANTICA

## Late Lopez & Co.

**Under Contract with R. C. M. Government**

DIRECT SERVICE BETWEEN

Manila, Singapore, Barcelona and Liverpool. Calling at Colombo, Port Said, Genoa, Cadiz, Lisbon, Vigo.

**Regular passenger and freight service between**

Manila, Singapore, Colombo, Suez, Port Said, Genoa, Barcelona, Valencia, Cadiz, Lisbon, Vigo, Coruna and Liverpool. Regular monthly service between Barcelona, Cadiz, New York, Cuba and Mexico. Through tickets from Manila to New York with change of steamer at Barcelona or Cadiz. Through bill of lading to all European ports and to Atlantic Coast Ports of U. S. A. Cargo for Naples transhipped at Genoa and for London and Hamburg at Liverpool : : : : : : : : : : :

**For freight and passage and full information apply to**

AGENT DE LA

## COMPANIA TRANSATLANTICA

Plaza Moraga No. 9 Manila, P. I.

# THE SEMI-TROPICAL ROUTE

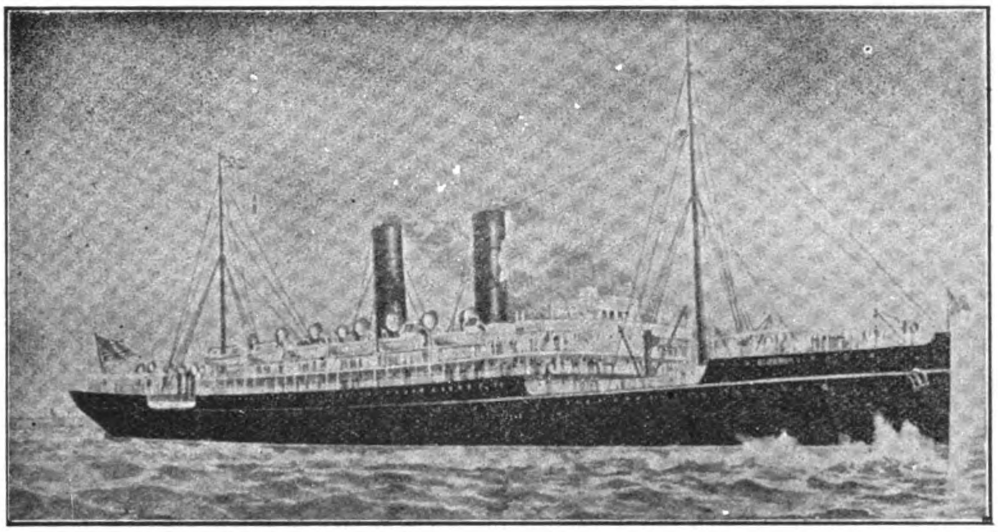
PACIFIC MAIL STEAMSHIP COMPANY

TOYO KISEN KAISHA

DIRECT SERVICE BETWEEN SAN FRANCISCO AND THE FAR EAST

SAN FRANCISCO
HONOLULU
YOKOHAMA
KOBE
NAGASAKI
SHANGHAI
HONGKONG
MANILA

A. M. GARLAND
FREIGHT TRAFFIC MANAGER
A. G. D. KERRELL
GENERAL PASSENGER AGENT



MANCHURIA
MONGOLIA
KOREA
SIBERIA
CHINA
ASIA
TENYO MARU
CHIYO MARU
NIPPON MARU

GENERAL OFFICE,
"FLOOD BUILDING"
SAN FRANCISCO, CAL.

SIBERIA—Transpacific Record 10 days 10 hrs. (Yokohama-San Francisco)

FEATURES OF THE LINE:—Southern route; passengers enjoy outdoors throughout; deck bathing. The call at Honolulu, Oahu, the most fertile and beautiful Island of the Pacific. The only line to San Francisco, the greatest port of the Pacific.

Castle Bros.-Wolf & Sons, Agents, Manila, P. I.



# SAN FRANCISCO TO THE EAST

*The Overland Limited*

**Electric-lighted parlor sleeping cars, combination buffet-library and drawing-room observation cars. Diner all the way**

*The Last Word in Luxurious Travel*

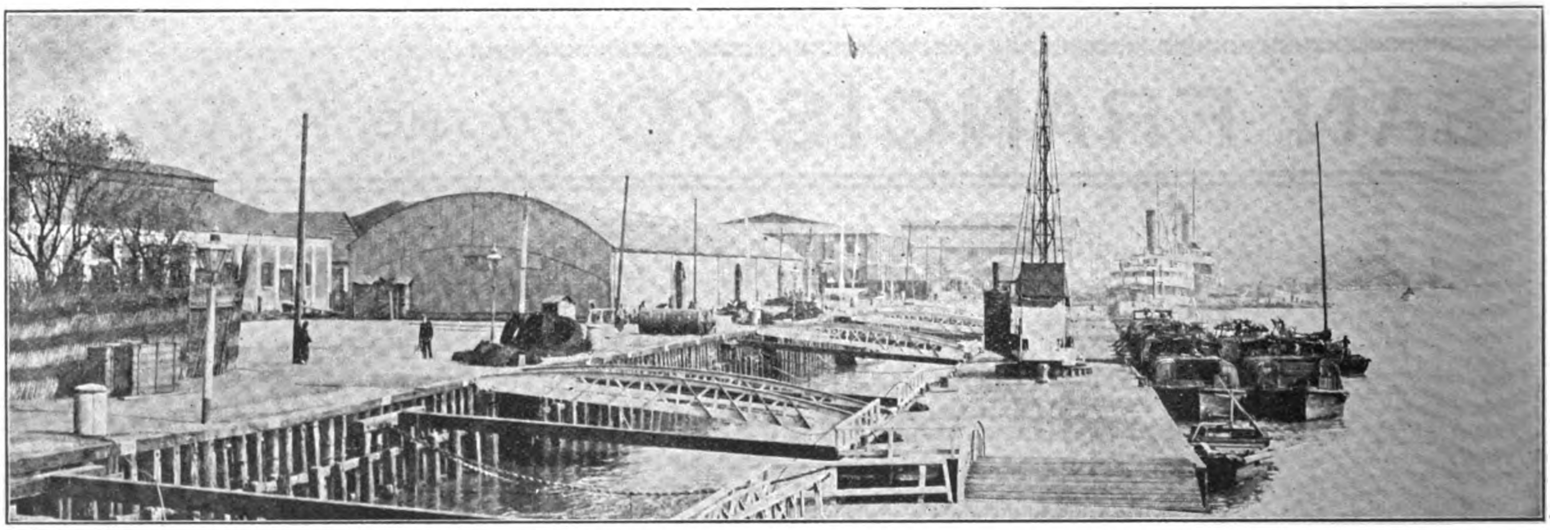
**Over the scenic route and straight across the Great Salt Lake by way of Lucin-Ogden cut-off, a wonderful triumph of modern engineering**

# SOUTHERN PACIFIC

## Operating Coast and River Steamships

## Between Shanghai and all the Principal Ports of China

| | | | |
|---|---|---|---|
| SHANGHAI | AMOY | NANKING | ICHANG |
| CHEFOO | SWATOW | WUHU | CHANGSHA |
| TIENTSIN | HONGKONG | KIUKIANG | NANCHANG |
| NEWCHWANG | CANTON | HANKOW | HANGCHOW |
| FOOCHOW | CHINKIANG | SHASI | SOOCHOW, ETC. |



VIEW OF LOWER HONGKEW WHARVES

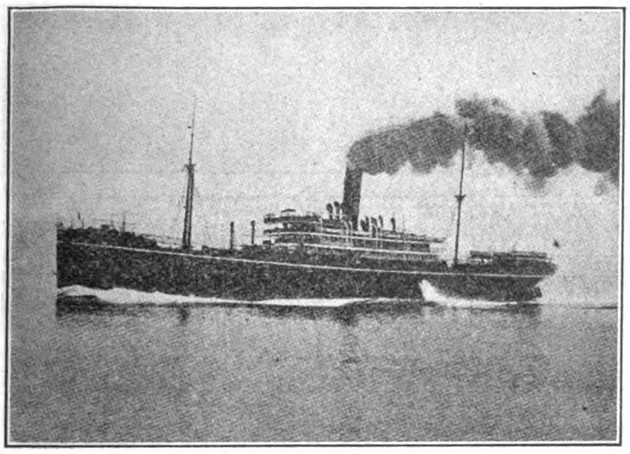
## Operating the Most Extensive and Economical System of Wharves and Warehouses in Shanghai. The Lower HongKew, Central, Eastern, and YangKadoo Wharves Possess Every Facility for Quick and Economical Dispatch.

**GOODS FROM ANY PART OF THE WORLD MAY BE CONSIGNED TO OUR BONDED WAREHOUSES, AND WILL BE DISCHARGED AND STORED AT LOWEST RATES, SUBJECT TO DELIVERY AT ANY TIME TO AUTHORIZED PARTIES**

**H. E. TAOTAI M. Y. CHUNG**
MANAGING DIRECTOR
NO. — BUND

**THOMAS H. HARRIS**
GENERAL MANAGER
LOWER HONGKEW WHARVES

# NIPPON YUSEN KAISHA



(JAPAN MAIL S. S. CO.)

**Under Mail Contract with the Imp. Japanese Government**

EUROPEAN LINE ................FORTNIGHTLY
AMERICAN LINE ................FORWEEKLY (FROM KOBE FORTNIGHTLY)
AUSTRALIAN LINE................FORTNIGHTLY
YOKOHAMA SHANGHAI LINE.....TWICE A WEEK
SEVERAL LINES BETWEEN JAPAN TO NORTH CHINA, COREA, VLADIVOSTOK, ETC.

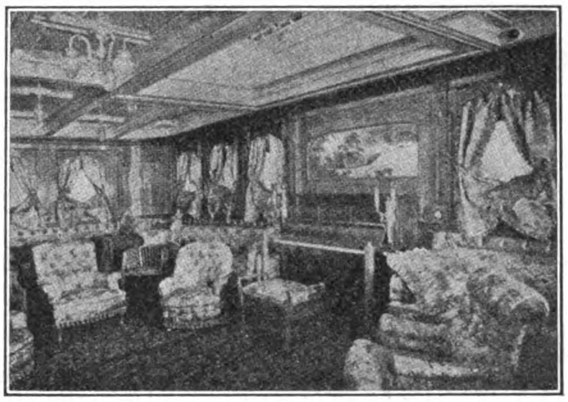
For Further Particulars concerning Freight and Passage, apply

## NIPPON YUSEN KAISHA

SHANGHAI, HONGKONG, YOKOHAMA, KOBE, MOJI, NAGASAKI AND

## WARNER BARNES & CO.

Agents, Manila



SOCIAL HALL S.S. "NIKKO MARU"

# THE ROBERT DOLLAR CO.

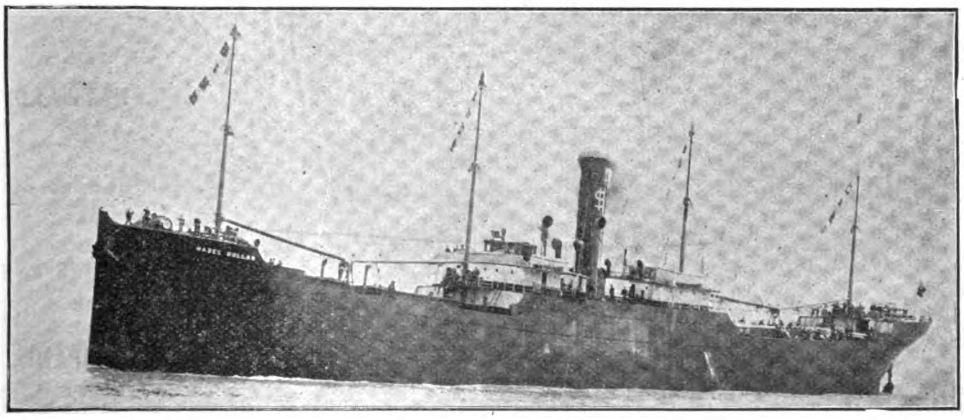
HEAD OFFICE:
60 California St, San Francisco, Cal.

CHINA OFFICE:
13 Nanking Road, Shanghai

## Mills at Tacoma, Wash., and Portland, Ore., U. S. A.

STEAMERS

BESSIE DOLLAR - - - - - - - HAZEL DOLLAR
STANLEY DOLLAR - - - - - - - M. S. DOLLAR
MELVILLE DOLLAR - - - - - HAROLD DOLLAR
GRACE DOLLAR



S. S. "HAZEL DOLLAR"

MANUFACTURERS OF OREGON PINE, CALIFORNIA RED WOOD AND CREOSOTED SLEEPERS

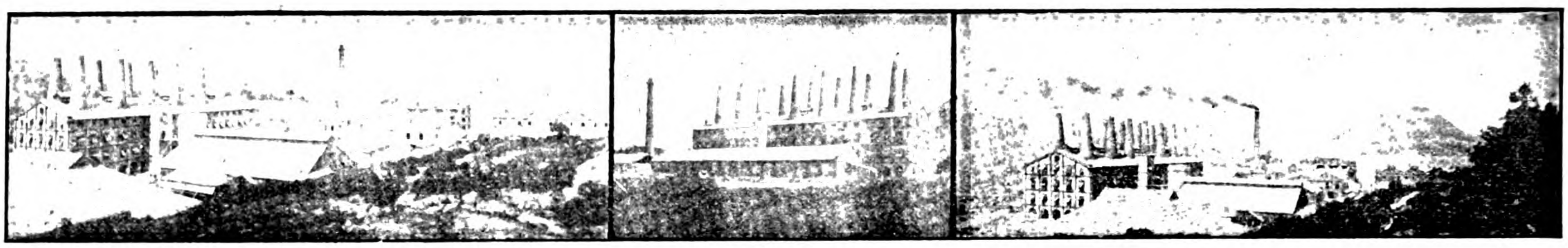
OUR MILLS ARE ESPECIALLY EQUIPPED FOR SUPPLYING RAILWAY TIMBER ORDERS, AND WE MAKE PROMPT DELIVERY BY OUR OWN STEAMERS

CABLE ADDRESS:

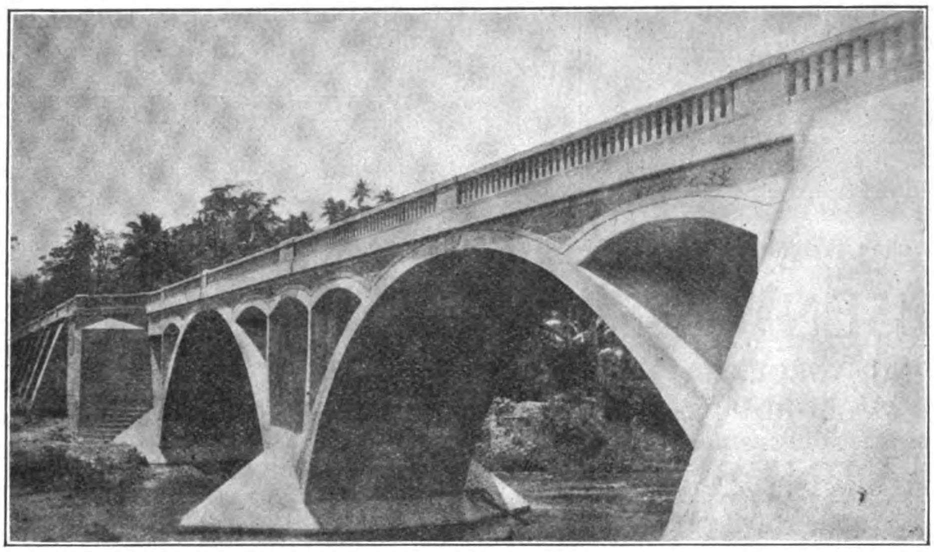
"DOLLAR"

A. B. C. 5th Ed.: Southard's Codes

# GREEN ISLAND CEMENT



WORKS OF THE GREEN ISLAND CEMENT COMPANY, LIMITED, HONGKONG



PARABOLIC ARCH BRIDGE, ALBAY—2500 BARRELS OF GREEN ISLAND CEMENT USED IN ITS CONSTRUCTION

Glazed Stoneware

House Drain and Sewer Pipes and Fittings In Stock

Glazed Paving Bricks and Tiles

Fire Bricks and Fire Clay

Agents:

WM. H. ANDERSON & CO.
MANILA, P. I.

SHEWAN, TOMES & CO.
SHANGHAI

SHEWAN, TOMES & CO.
JAPAN

TURNER, MORRISON & CO.
CALCUTTA

Agents:

C. B. HAYWARD
RANGOON

E. SPINNER & CO.
BOMBAY

SHEWAN, TOMES & CO.
TIENTSIN

W. A. STOPANI
SINGAPORE

R. HENDERSON
PENANG

SANTA CRUZ BRIDGE

# Wm. H. ANDERSON & CO.

MANILA, P. I.

IMPORTERS AND EXPORTERS: COMMISSION AGENTS

AGENTS IN THE PHILIPPINES FOR

| | | | |
|---|---|---|---|
| GREEN ISLAND CEMENT COMPANY | LIBBY, McNEILL & LIBBY | DIEBOLD SAFES | GLAZED SEWER PIPE |
| HONGKONG ROPE MFG. CO. | SWIFT & COMPANY | AERMOTOR COMPANY | FIRE BRICK, FIRE CLAY |
| FARM AND ROAD WAGONS | BRUNSWICK-BALKE COLLENDER CO. | LUBRICATING OILS | RUBEROID ROOFING |

*Use Dragon Brand for Highclass Solid and Enduring Construction*

GENERAL AGENTS FOR CHINA

# *RACINE ACKERMANN & CO.*

*NO. 4 YANG-KING-PANG, SHANGHAI*

**THE CHEE HSIN CEMENT CO., LTD.**

**TANGSHAN PORTLAND CEMENT**

In barrels of 375 lbs. (170 kg.) net

Tangshan Portland Cement, manufactured of the best raw material at our new extensive works which have recently been erected and equipped with the newest and most up-to-date machinery, flint-mills, rotary-ovens, etc., etc., is of superior quality and

**EQUAL TO THE BEST EUROPEAN BRANDS**

Awarded Silver Medal at St. Louis Exposition 1904

*Shanghai Agent:*
*E. WOYAN*
*47 Quai de France*

In bags of 187½ lbs. (85½ kg.) net

Tangshan Portland Cement is universally used throughout North China by Railways, Engineering Works, Mining Companies, Municipalities, etc. Orders of large extent accepted for delivery at short notice.

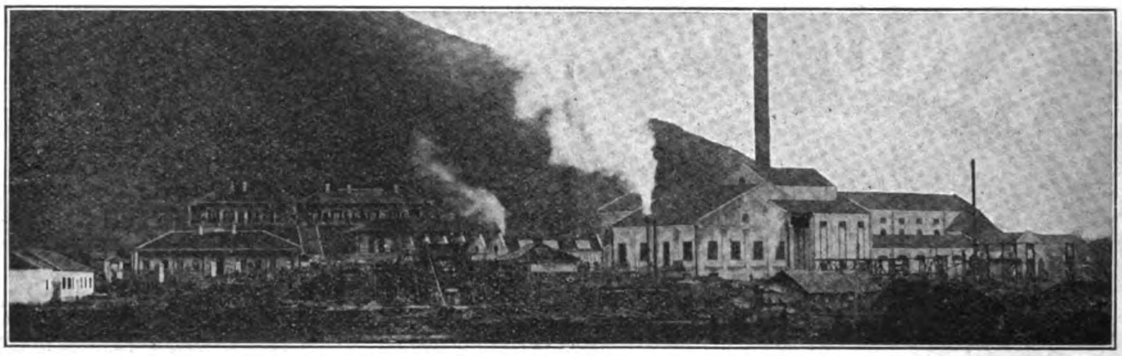
**CEMENT MOSAIC TILES**
**CEMENT ROOFING TILES**
**CEMENT PAVING TILES**
**CEMENT DRAIN PIPES**
**FIREBRICKS**
**FIRECLAY TILES**
**GROUND FIRECLAY**

For particulars and prices apply to

**THE CHEE HSIN CEMENT CO., LTD.**

Head Offices:
TIENTSIN

*Hankow Agent:*
*CHING CHONG*



**TAYEH, HUPEH PROVINCE, CHINA**

TELEGRAPH ADDRESS:
**"SHUINEE"**

SHANGHAI OFFICES:
**221 NINGPO ROAD**
**TELEPHONE, 3431**

HANKOW OFFICES:
**CHINESE BUND, CHONG PING LANE**

# PRIESTMAN BROTHERS, LIMITED

HULL AND
3 LAURENCE POUNTNEY HILL,
CANNON ST., LONDON, E. C.

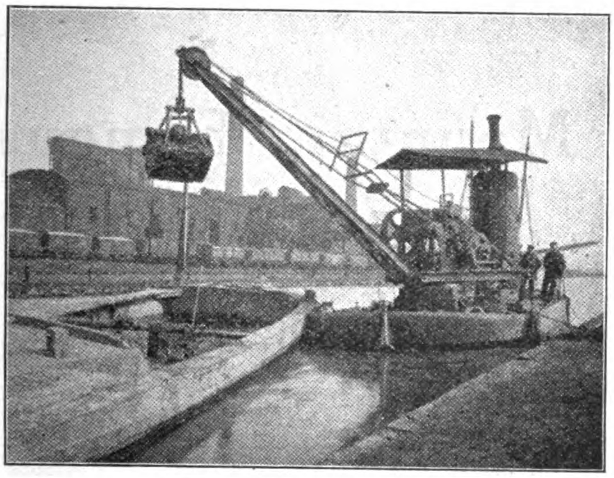
DREDGERS,
EXCAVATORS
AND ELEVATORS

150 DIFFERENT TYPES AND SIZES OF GRABS TO SELECT FROM 1 TO 150 CUBIC FEET CAPACITY

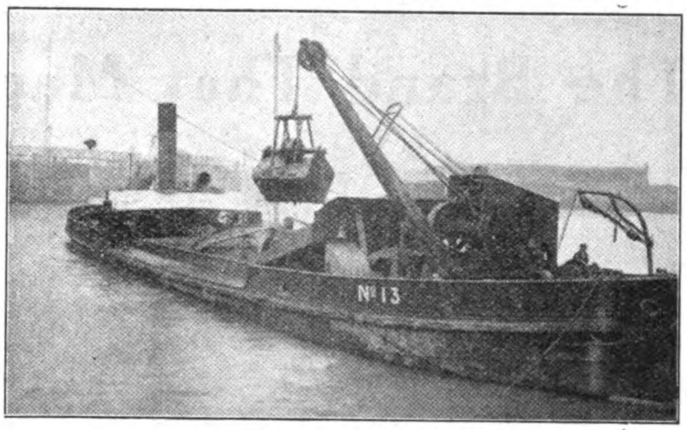
PRICES AND FULL PARTICULARS ON APPLICATION TO

ONE OF FOUR GRAB DREDGERS SUPPLIED TO THE GREAT WESTERN RAILWAY CO.

ONE OF A LARGE NUMBER OF GRABS TAKEN BY MESSRS. S. PEARSON & SON, LTD., CONTRACTORS



ONE OF A NUMBER OF GRAB DREDGERS SUPPLIED TO THE LONDON & NORTH WESTERN RAILWAY COMPANY



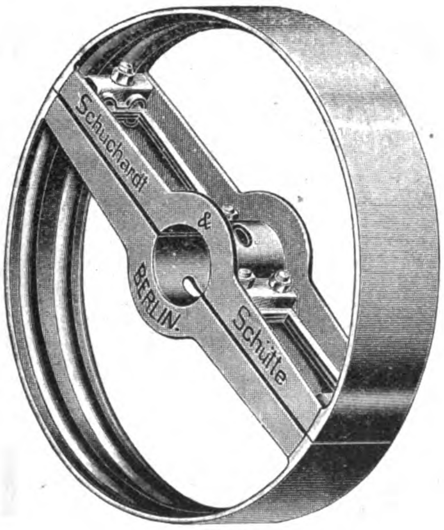
ONE OF FIFTEEN GRAB DREDGERS SUPPLIED TO THE LIVERPOOL DOCKS BOARD

**MIDDLETON & CO. LTD., SHANGHAI, AGENTS FOR CHINA**

---

## SCHUCHARDT & SCHUTTE

BERLIN LONDON NEW YORK




**ABSOLUTELY RIGID**

**NO BREAKAGE NO WARPING.**

FULL ASSORTMENT OF SIZES CARRIED IN STOCK BY:

TAKATA & CO., TOKYO
SHANGHAI MACHINE CO., SHANGHAI AND HANKOW.
GERMANN & CO., MANILA.
HOWARTH ERSKINE & CO., LTD., BANGKOK.
MAINTZ & CO., BATAVIA AND SOERABAYA.

---

**The United States offers the greatest opportunity** in the world to makers of industrial or denatured alcohol. Those who start this production now are bound to come to great rewards. The field is practically untouched and by starting now, you can have things very much your own way.

A general consideration of the NEW INDUSTRY, including a full description of the distilling apparatus used and the principle involved, also methods of chemical control and disposal of the products, first edition illustrated by seventy-four engravings, 156 pages. This book is cloth bound, it will be sent to any address post paid on receipt of $3.20. Every farm, ranch and merchant needs a 5 gallon Tax-Free denatured alcohol distillery apparatus. Agents price $98.50, a 100 gallon distilling apparatus cost $700.00. We are desirous to establish Far Eastern Agencies and have very good propositions to offer.

**THE UTILIZATION OF WOOD WASTE BY DISTILLATION**

## Wood Waste Distilleries Co.

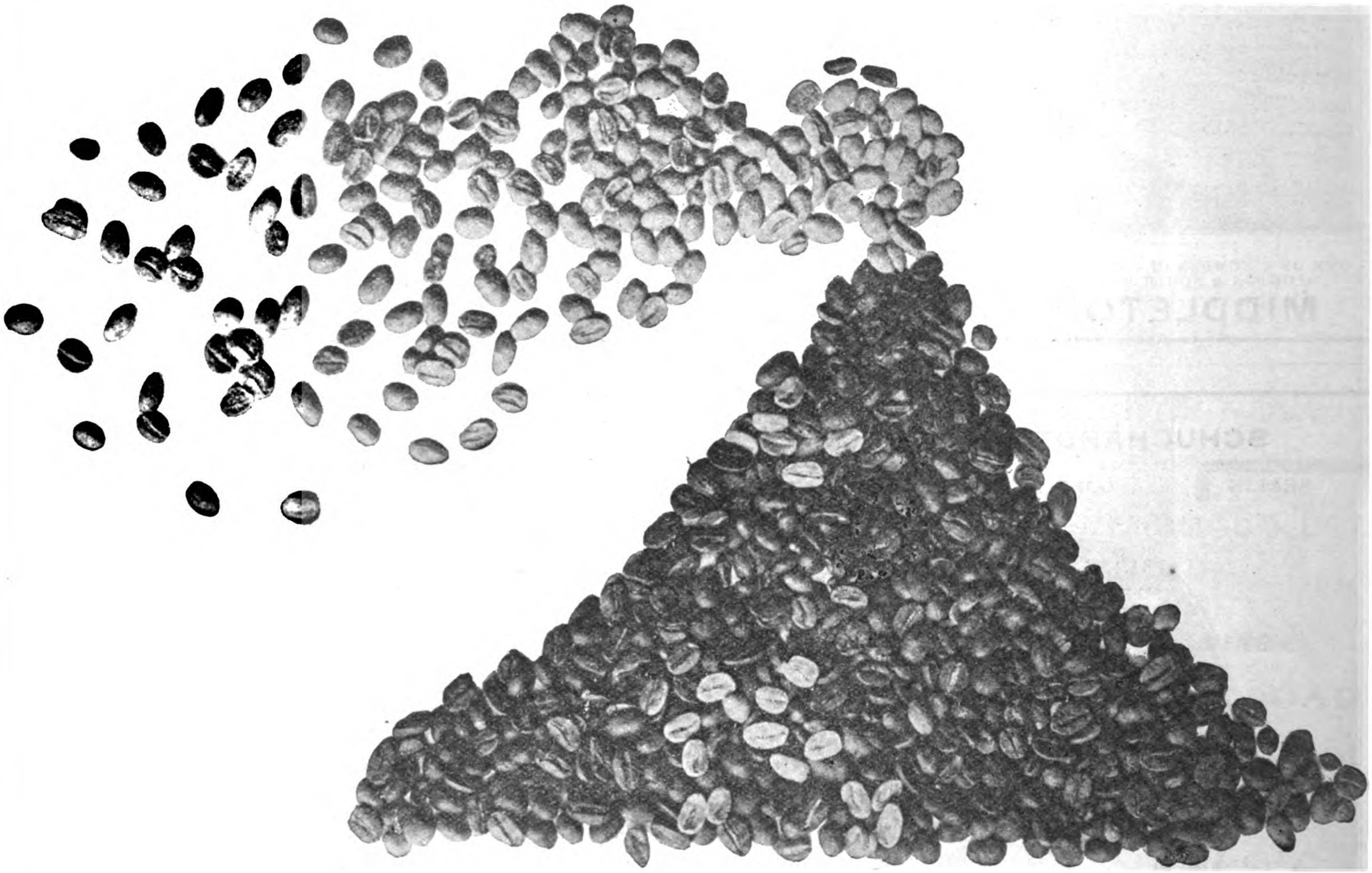
213-217 St. Clair Ave., N. W. CLEVELAND, OHIO, U. S. A.

# CLARKE'S

MAYON COFFEE

MANILA PHILIPPINE IS.

The Brand That Made The Mountain Famous



CLARKE'S MAYON COFFEE

EQUALS "SATISFIED CUSTOMERS"

Once Tried Always Used—Never Refused

| Frank L. Strong | Stuart S. Harvey |
|---|---|
| Cable Address: STRONG | Cable Address: HARVISTON |
| Telephone No. 360 P. O. Box 772 | Telephone No. 360 P. O. Box 277 |

Offices: 34-40 Calle Echague, Manila, P. I.

EXCLUSIVE AGENTS

FOR LEADING

AMERICAN AND EUROPEAN MANUFACTURERS

LEADING SPECIALTIES

Electrical Machinery and Supplies

Saw Mill and Planing Mill Machinery

Locomotives and Railway Equipments

Air Compressors and Pneumatic Tools

Agricultural and Road Making Machinery

Mechanics' Tools, Builders' Hardware, etc., etc.

Steam Engines and Boilers

Kerosene and Gasoline Engines

Ice and Refrigerating Machines

Sugar, Rice and Fibre Machinery

Mining and Hydraulic Machinery

Complete Machine Shop Equipment

SPECIFICATIONS DRAWN ESTIMATES GIVEN

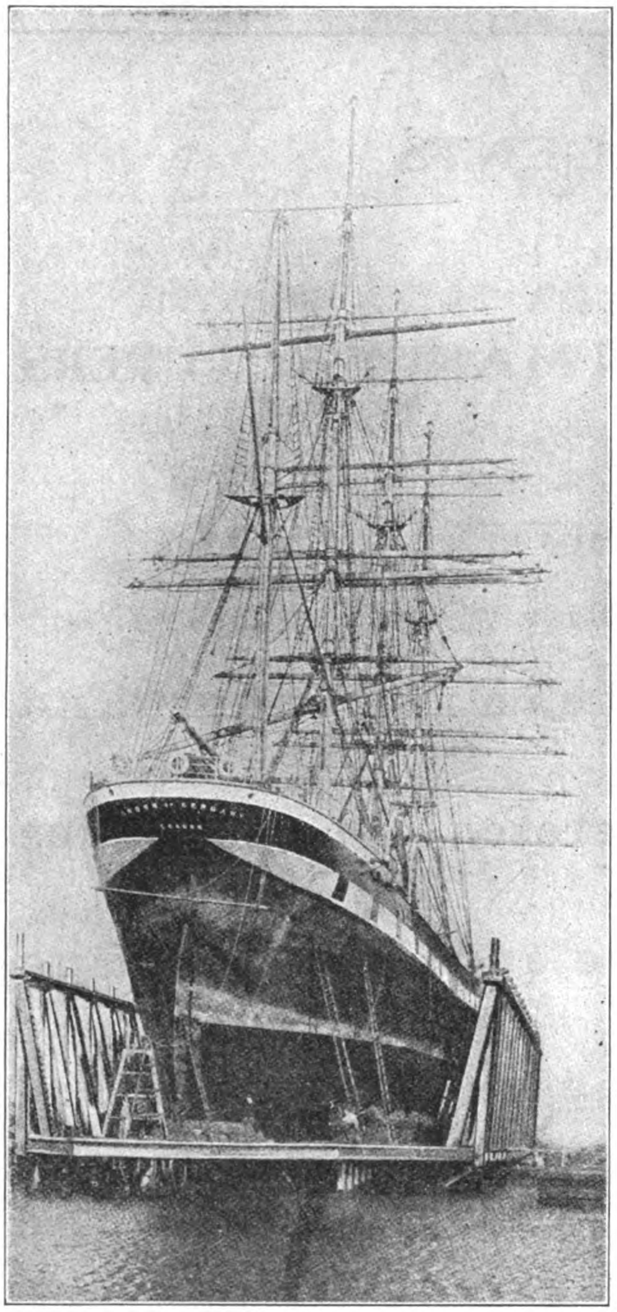
# The Tsingtauer Werft Tsingtau

CHINA

**Largest floating dock in China**

**Capacity 16000 tons**

for ships up to 460 feet length.



Builders and repairers of ships and engines.

All kinds of repairs done with despatch.

Electric crane to lift 150 tons.

**Telegraphic address:** WERFT TSINGTAU

**Codes used:** A.B.C. Code, 5th Ed. A-1 Code.



# ROSE, DOWNS & THOMPSON, LTD.

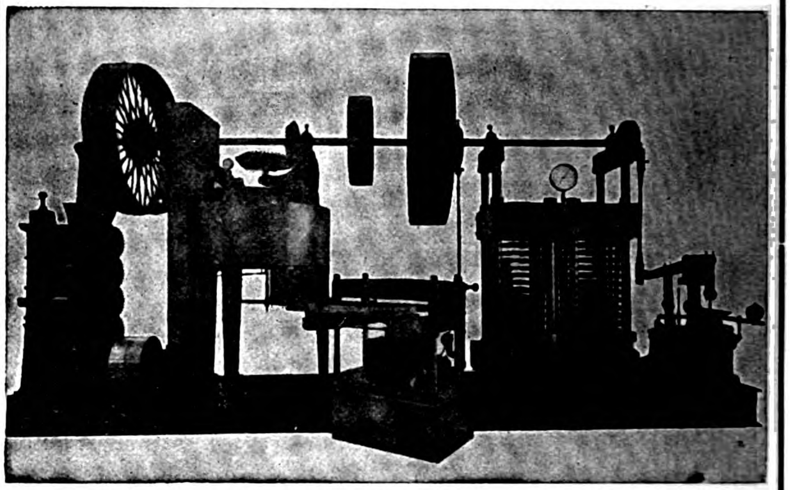
ESTABLISHED 1777

**EASTERN OFFICE: 13 NANKING ROAD, SHANGHAI**

CABLE ADDRESS: "ROSEDOWNS," SHANGHAI

HEAD OFFICE AND WORKS, HULL, ENGLAND

**CONTRACTORS TO HOME, COLONIAL AND FOREIGN GOVERNMENTS**



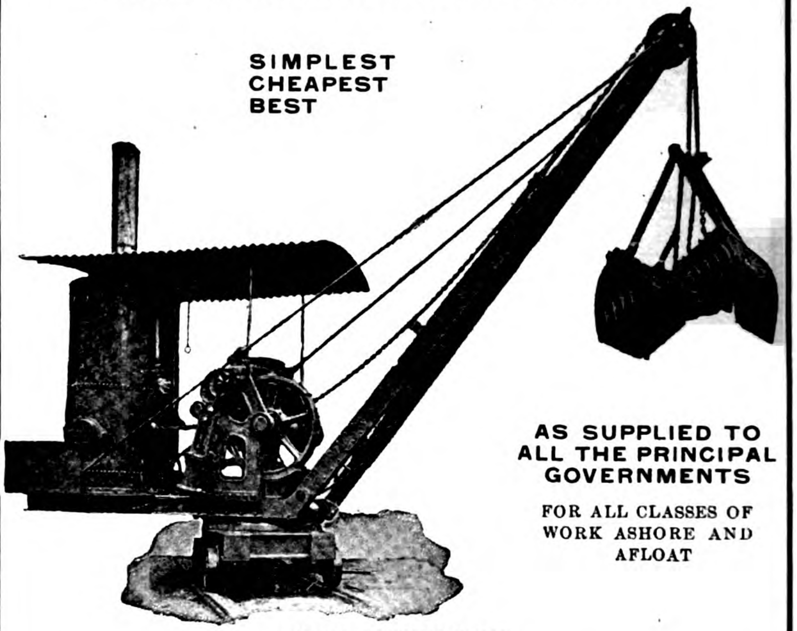
**OLDEST AND LARGEST MANUFACTURERS IN THE WORLD OF**

## OIL MILL MACHINERY

SUITABLE FOR THE TREATMENT OF EVERY VARIETY OF OIL-BEARING SEED AND NUT; ON THE MOST EFFICIENT AND MODERN PROCESSES

OVER 4,000,000 TONS OF SEEDS AND NUTS CRUSHED ANNUALLY IN MACHINERY MANUFACTURED BY US

SIMPLEST
CHEAPEST
BEST



AS SUPPLIED TO ALL THE PRINCIPAL GOVERNMENTS

FOR ALL CLASSES OF WORK ASHORE AND AFLOAT

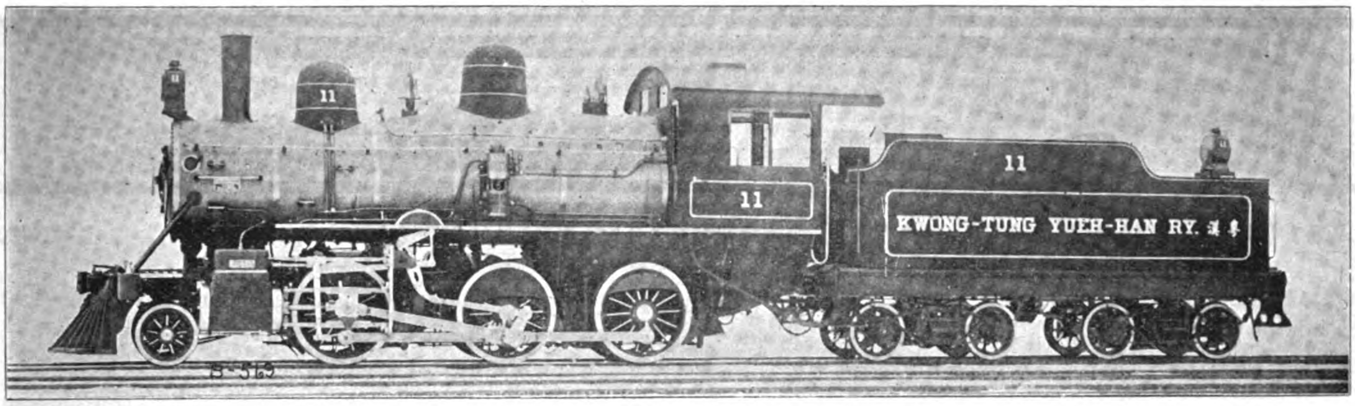
SOLE MAKERS OF

## The "Kingston" Grab Dredger and Excavator

POSSESSES IMPORTANT ADVANTAGES OVER ALL OTHER SYSTEMS

FOR DEEPENING RIVERS, DOCKS, CANALS, AND HARBOURS, EXCAVATING CLAY AND SAND, LIFTING ROCKS, DISCHARGING GRAIN, ETC., ETC.

**CATALOGUE, ESTIMATES AND FULL INFORMATION ON APPLICATION**




# MITSUI BUSSAN KAISHA

ENGINEERING DEPARTMENT

Tokyo, Hongkong, Shanghai, Tientsin, Newchwang, Canton, Hankow, Dairen, Mukden, Changchun, etc.

**Locomotives, Passenger Coaches, Freight Cars, Bridges, Rails, etc.**

**Railways equipped throughout with the most modern Standard Appliances**

RAILWAYS IN CHINA FULLY OR PARTIALLY
EQUIPPED WITH MATERIALS SUPPLIED BY THE MITSUI BUSSAN KAISHA
SOUTH MANCHURIA RAILWAY; ANTUNG-MUKDEN LINE; KIANGSI RAILWAY; PEKING-HANKOW RAILWAY; KIANGSU RAILWAY; CHEKIANG RAILWAY; SWATOW-CHAOCHOWFU RAILWAY; ETC.

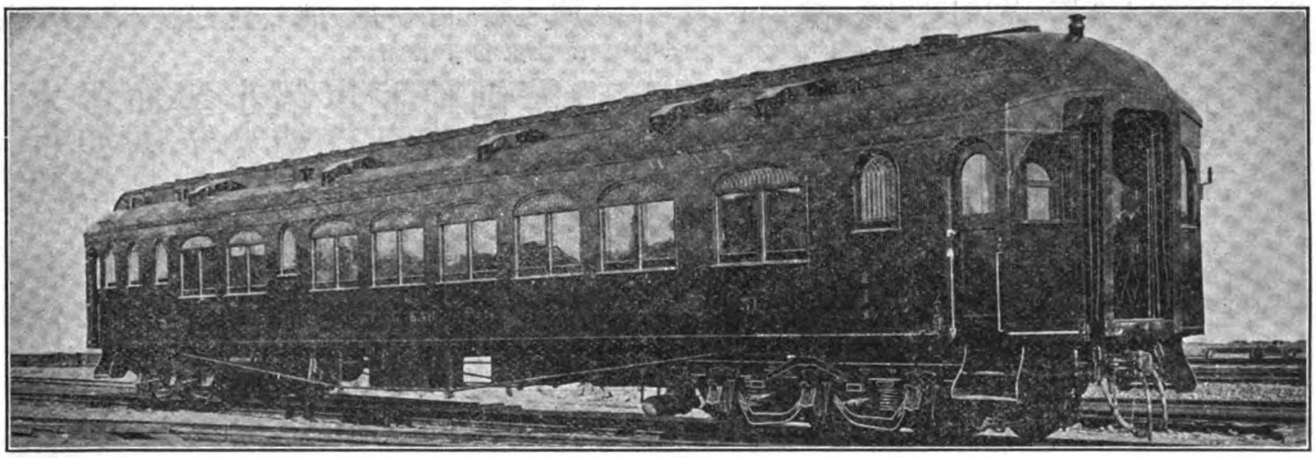
AGENTS IN JAPAN, KOREA, MANCHURIA AND CHINA FOR

**American Locomotive Co., Gould Coupler Co., The Pullman Co., Safety Car Heating & Lighting Co., Jones Laughlin Steel Co., Union Switch & Signal Co., etc.**

AGENTS FOR JAPAN AND KOREA:

The Pyle National Headlight Co.

RAILWAY MACHINE SHOPS FITTED COMPLETE WITH THE MOST APPROVED TYPES OF SPECIAL MACHINE TOOLS.



PULLMAN SLEEPING CAR ON THE SOUTH MANCHURIA RAILWAY

Supplied by the MITSUI BUSSAN KAISHA

KOBE
CANTON
HONGKONG
SHANGHAI
TIENTSIN
NEW YORK

# SHEWAN, TOMES & Co

LONDON
OFFICE
27
LEADENHALL
STREET
LONDON, E.C.

**IMPORT AND EXPORT MERCHANDISE, COMMISSION AND SHIPPING AGENTS**

## London—Hongkong—Canton—Shanghai—Tientsin—Kobe—New York

**Telegraphic Address:**
**"KEECHONG," All Branches.**

**Hongkong Post Office Box: No. 131B**
**Shanghai Post Office Box: No. 84**

## General Managers of

The China Light & Power Co., Ltd., Hongkong
The Green Island Cement Co., Ltd., Hongkong
The Hongkong Rope Mfg. Co., Ltd., Hongkong
The China Provident Loan & Mortgage Co., Ltd., Hongkong
The Whangpoo Wharf and Godown Co., Ltd., Shanghai
The China and Manila Steamship Co., Ltd., Hongkong
The Canton Land Co., Ltd.
Equitable Life Assurance Society of the United States, Hongkong

## Agents for

American Asiatic Steamship Co.
American Manchuria Line, Hongkong
J. Marke Wood's Line of Steamers
The Yangtsze Valley Company, Ltd.
The Electric Traction Co. of Hongkong, Ltd.
The American China Development Co.
The Yangtsze Insurance Association, Ltd., Hongkong
World Marine Insnrance Co., Hongkong
Reliance Marine Insurance Co., Hongkong
Union Marine Insurance Co., Ltd., Hongkong
Batavia Sea and Fire Insurance Co., Hongkong
Glen Line of Steamers, Hongkong
The British Dominions Marine Insurance Co., Ltd., Hongkong
North British & Mercantile Insurance Co., Hongkong
Law Union & Crown Insurance Co., Hongkong
Yorkshire Fire and Life Insurance Co., Hongkong
Fireman's Fund Insurance Co. (Fire only), Hongkong
Insurance Company of North America, Hongkong
The Chinese Engineering and Mining Company, Ltd., Hongkong
Shanghai Pulp and Paper Co., Ltd., Hongkong
The International Sleeping Car and Express Trains Co., Hongkong
(Trans-Siberian Railway), Hongkong
Tacoma Grain Co.
Birkmyre Bros.

# MACHINERY DEPARTMENT

## Shanghai, Telephone No. 3487

**ELECTRIC LIGHT & POWER PLANTS. RAILWAY, MINING, MILL AND INDUSTRIAL PLANTS AND EQUIPMENT; SAFETY WATER-TUBE BOILERS; STEAM TURBINES; PUMPS, GAS ENGINES, PRODUCERS, ETC. ENGINEERING AND ELECTRICAL SUPPLIES**

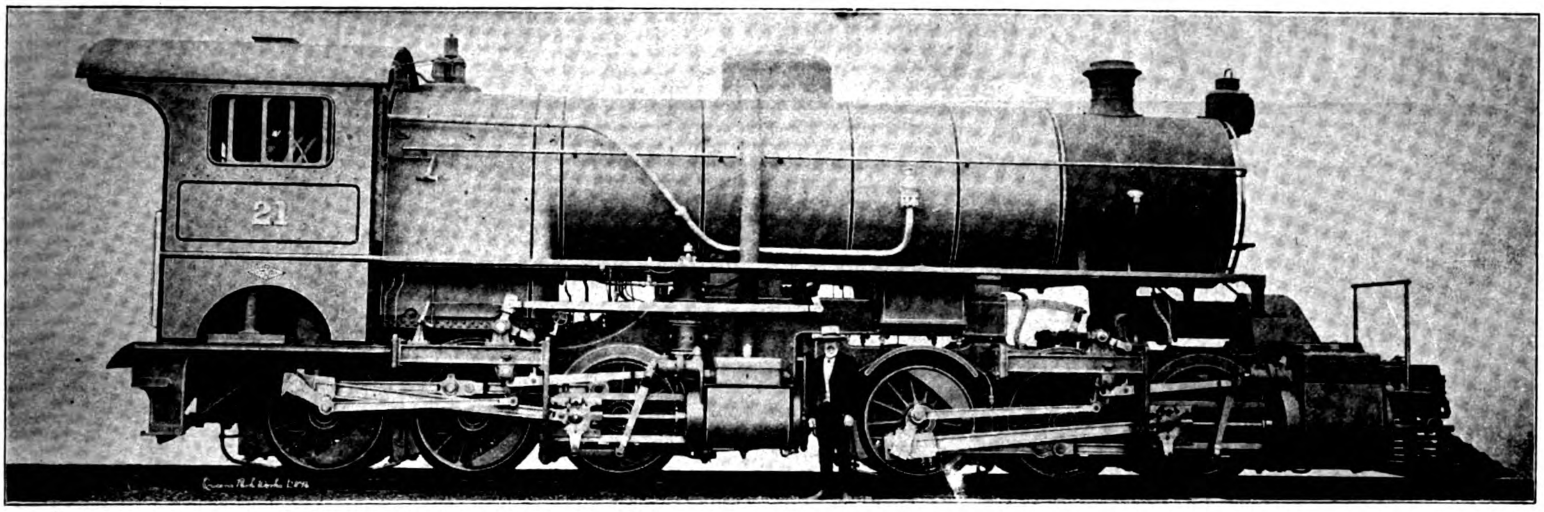
### 上海英商新旗昌洋行機器處廣告

本行機子房現設江西路六號　電話三四八七號

本行經理各種機器如紡織碾米榨油磨麪造紙開礦墾荒抽水挖泥大小火輪全副引擎鍋爐及火車頭客車貨車鐵路材料並自來水一切物件其餘鋸木車鑽刨床各式大小引擎鍋爐及磨電機發動機煤氣引擎發煤氣機以及得律風電燈電氣應用一切另件等具色色俱全均係外洋著名廠家特別精造新式玲瓏堅固但各項名目繁多未便盡載倘承賜顧或蒙函詢當即竭誠詳細奉答價亦格外克已以廣招徠尚祈惠臨方知言之不虛謬也

**SOLE REPRESENTATIVES IN CHINA FOR**

British Insulated & Helsby Cables Ltd. (Hongkong and S. China).
British Westinghouse Electric & Manufacturing Co., Ltd.
Browett Lindley & Co., Ltd., England.
Barber Asphalt Paving Co., U. S. A.
Fraser & Chalmers Ltd., England.
J. G. Brill Co.
Lima Locomotive & Machine Co., U. S. A.
The London Phosphor, Copper & Bronze Co.
Manning, Maxwell & Moore, Inc., U. S. A.
Power Pulley Co., Ltd., England.
Power Gas Corporation Ltd., England, (except bituminous plants)
Ransomes, Sims & Jefferies, Ltd., England.
Rhodes Motors Ltd., England
Sullivan Machinery Co., U. S. A., South China.
Turner Bros. Ltd., England, North China.
Wason Manufacturing Co., U. S. A.
The Wolf Co., U. S. A.
Wolverine Motor Works, U. S. A.
Water Tube Boiler Co., Ltd., England




MALLET TYPE ENGINE FOR THE PEKING-KALGAN LINE MADE BY THE NORTH BRITISH LOCOMOTIVE CO.

# North British Locomotive Co., Ltd.

| HYDE PARK WORKS | QUEEN'S PARK WORKS | ATLAS WORKS |
|---|---|---|
| (Late NEILSON, REID & CO.) | (Late DUBS & CO.) | (Late SHARP, STEWART & CO., Ltd.) |

**Head Office and Administration Building: SPRINGBURN, GLASGOW**

**LONDON OFFICE:—17, VICTORIA STREET, WESTMINSTER, S. W.**

**Telegrams: LOCO., GLASGOW**

BUILDERS OF ALL KINDS OF

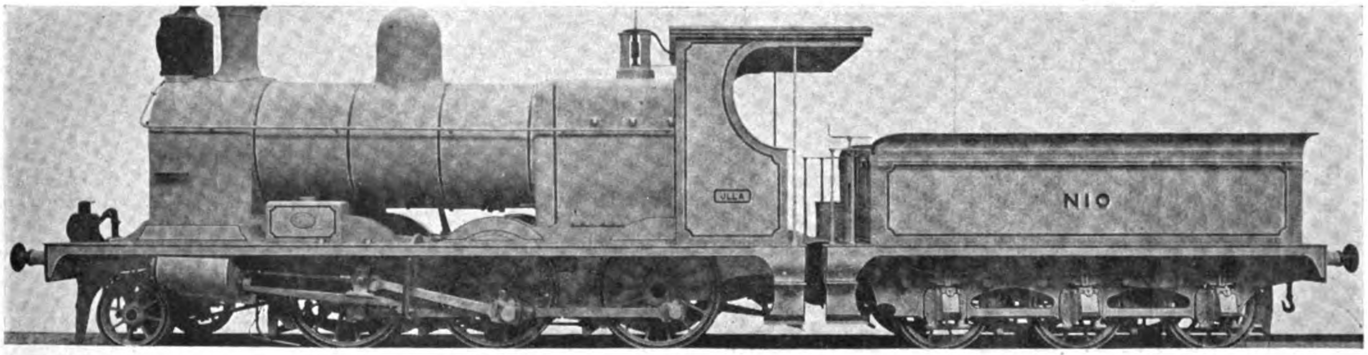
## Locomotive Engines and Tenders Suitable for any Gauge of Railway

| ANNUAL CAPACITY: | WORKSHOPS EQUIPMENT: | OUTPUT NOW EXCEEDS: |
|---|---|---|
| 700 | 8000 | 19,000 |
| MAIN LINE LOCOMOTIVES | MEN | LOCOMOTIVES |

## AGENTS IN THE EAST

**China: Messrs. Jardine Matheson & Co., Ltd., Hongkong and China**

**Japan and Manchuria: Messrs. Okura & Co., Tokyo**

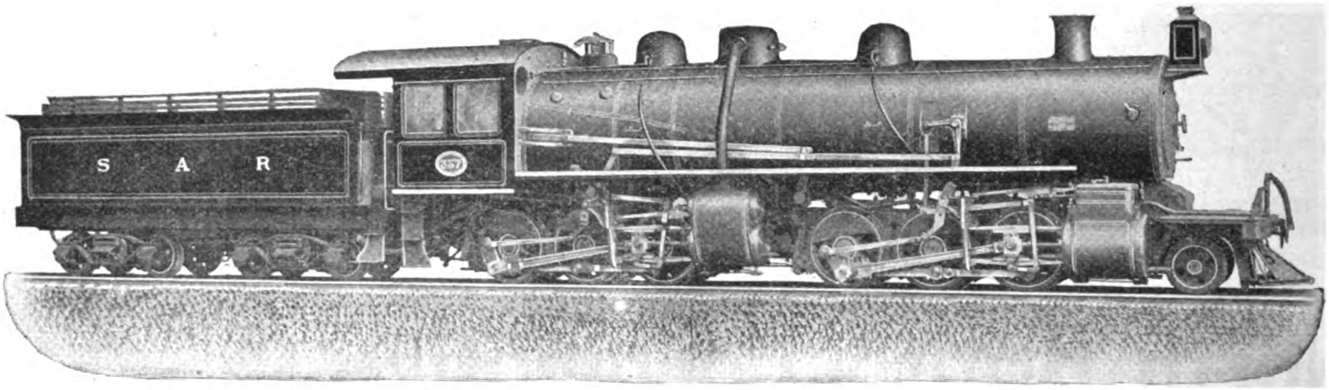


TYPE OF NORTH BRITISH LOCOMOTIVE SUPPLIED TO THE TIENTSIN-PUKOW—SOUTHERN SECTION

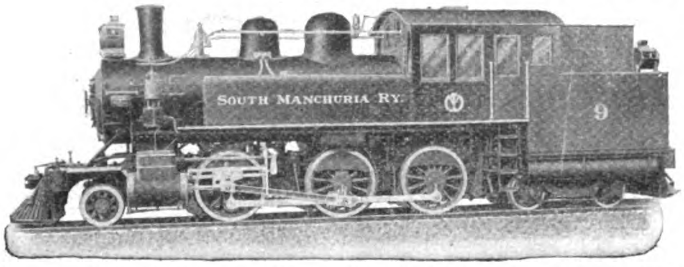
## THE LARGEST LOCOMOTIVE WORKS IN EUROPE

# AMERICAN LOCOMOTIVE COMPANY

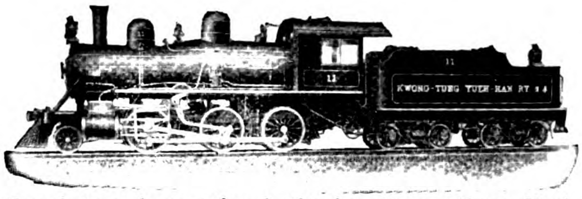
**30 Church Street, New York, U. S. A.**
**Cable Address: Locomotive, New York**



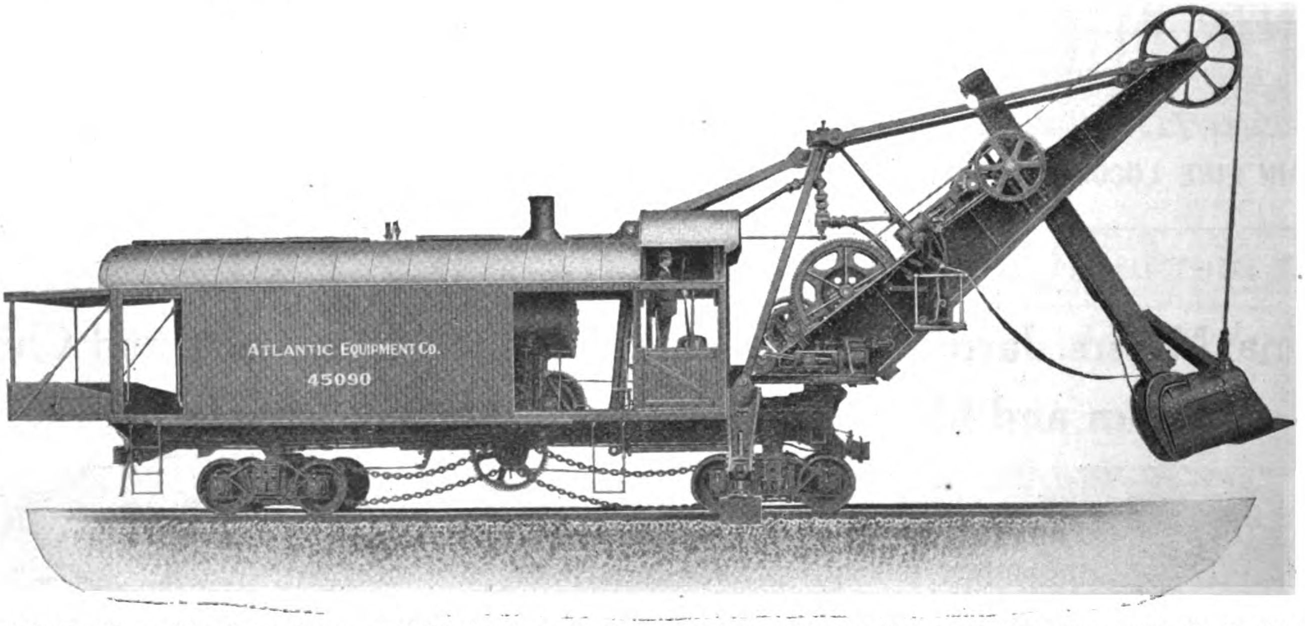

Articulated compound locomotive built for South African Government Railways to operate heavy trains on roads with steep grades and sharp curves.




Six coupled, double end locomotive built for South Manchuria Railway.



Mogul type locomotive built for Kwong-Tung Yueh-Han Railway.




Atlantic Steam Shovel for heavy or light digging. Consumes 15% to 30% less fuel than other steam shovels; handles more material; is not top heavy; has higher lift and shorter boom. Two of these shovels are in successful operation on the South Manchuria Railway.

# MITSUI & COMPANY

**Sole Agents for**

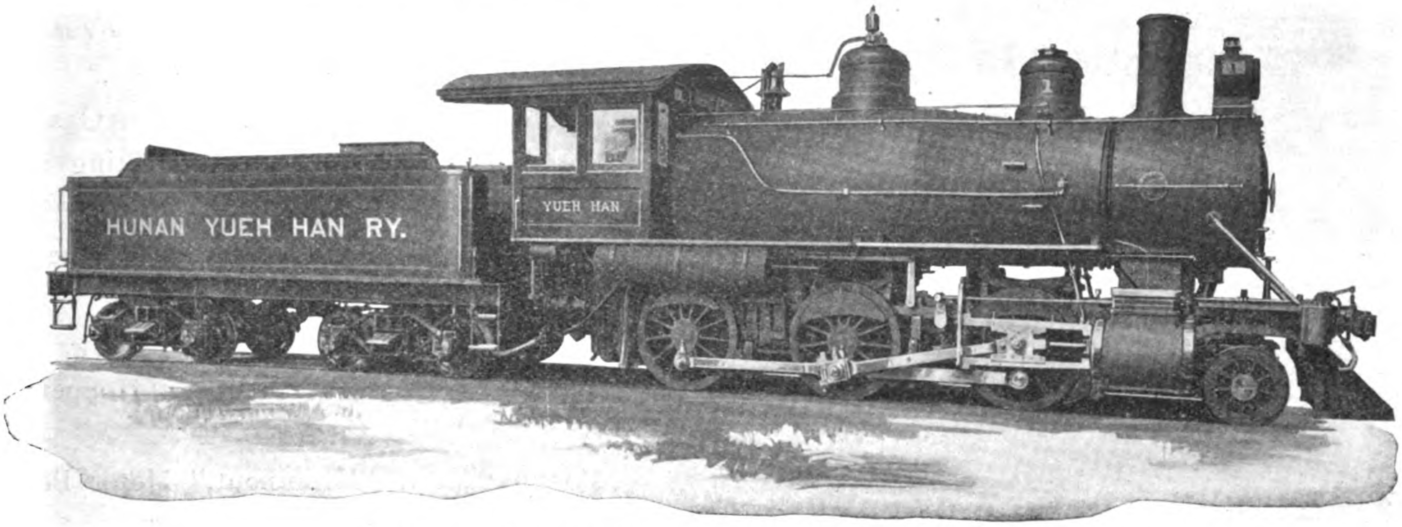
*China, Japan, Korea, Manchuria and Siam*

# Baldwin Locomotive Works

**500 North Broad St., Philadelphia, Pa., U. S. A.**

**Steam, Electric and Compressed-Air**

# LOCOMOTIVES




PASSENGER LOCOMOTIVE FOR THE YUEH HAN RAILWAY

## *ELECTRIC MOTOR & TRAILER TRUCKS*

Cable Address: "Baldwin, Philadelphia"

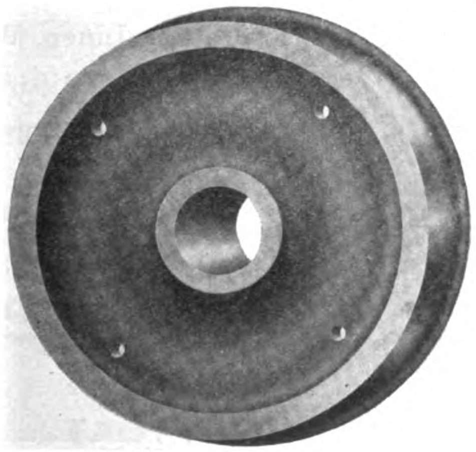
Agents for China: ARNHOLD, KARBERG & CO.
HONGKONG, SHANGHAI, TIENTSIN, HANKOW

Agents for Japan: SALE & FRAZAR, LTD.
YOKOHAMA and KOBE

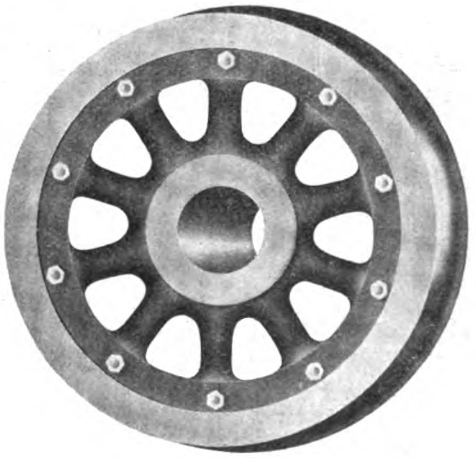
# STANDARD STEEL WORKS CO.

**HARRISON BUILDING, PHILADELPHIA, PA., U. S. A.**

Cable Address: STEELTIRES, PHILADELPHIA



Standard
SOLID FORGED AND ROLLED
Steel Wheels
STEEL TIRED WHEELS & STEEL
Tires
STEEL AND IRON AXLES
CASTINGS, FORGINGS AND
Springs

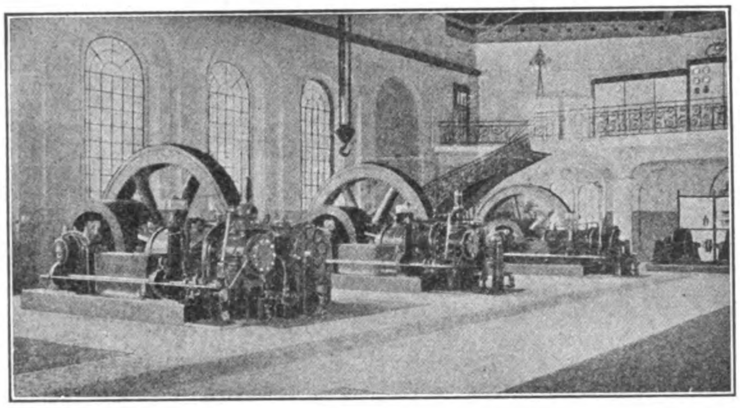


SHANGHAI
HONGKONG
CANTON
HANKOW

# MELCHERS & CO.

BREMEN
TIENTSIN
ICHANG
CHUNGKING

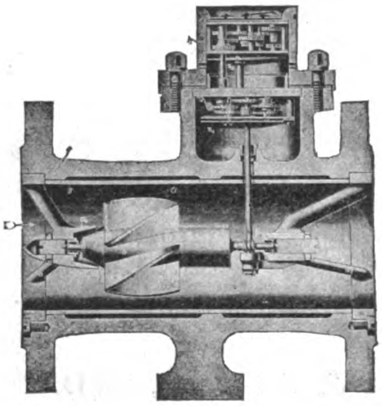
*Cable Address:* *MELCHERS.*

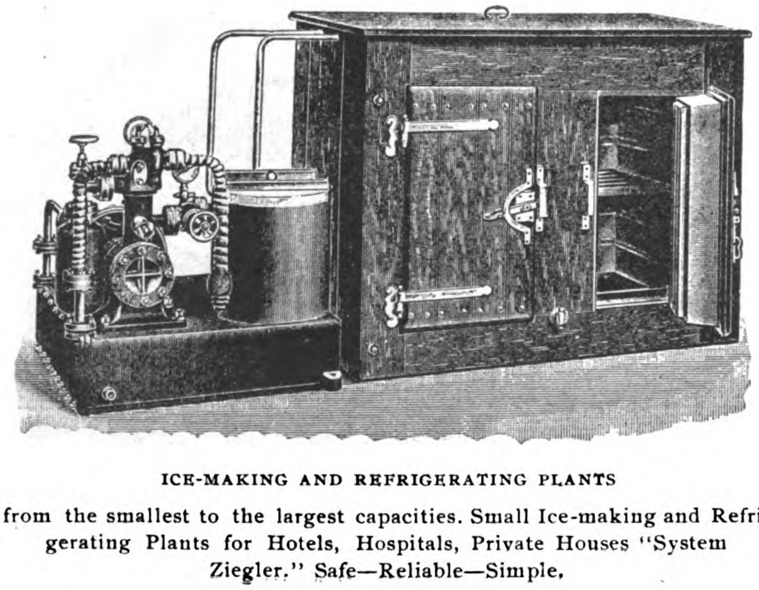


ELECTRIC POWER STATION WITH 3,400 HP. KOERTING'S GAS ENGINES SUCTION GAS PLANTS UP TO 500 HP. FOR ALL FUELS

**Waterworks**
Designing and Construction.
Pumps—Pipes.
*Carl Francke, Bremen.*

**Watermeters.** Wet running Dry running and Woltmann System.
*Breblauer Metallgieperei, Breslau.*





ICE-MAKING AND REFRIGERATING PLANTS

from the smallest to the largest capacities. Small Ice-making and Refrigerating Plants for Hotels, Hospitals, Private Houses "System Ziegler." Safe—Reliable—Simple.

## *General Agents for:*

High Speed Steam Engines "Roland"
Steam Turbines System "Zoelly"
Ship machinery, as Winches, Pumps, Engines
*Norddeutsche Maschinen & Armaturen Fabrik G. m. b. H. Bremen*

Diesel Motors, Gas Engines, Suction Gas Plants
Koerting's Injectors, Ejectors, Heating Plants
*Gebr. Koerting, A. G. Koertingsdorf Hannover*

Watertube Boilers, System Garbe, Marine Boilers
*Duerr & Co., Ratingen*

Dredgers for Harbour and River Work, Barges
Steam Tugs, Gold Dredgers, Hoppers
*Werf Conrad, Haarlem*

Marine Motors "Kromhout," Motor Boats
*Gebr. Goedkoop, Amsterdam*

Slow Speed Steam Engines, Condensing Plants
*Maschinenbau Anstalt A. G. Goerlitz*

Electrical Fittings, "Bergmann" Tubes, Meters
*Bergmann Electricitaets Werke, A. G. Berlin*

Electric Cables & Wires, Telephone & Telegraph Wires
*Dr. Cassierer, Charlottenburg*

Electric Fans, Small Motors, X Ray Apparatus
*Dr. Max Levy, Berlin*

Telephones, Central Stations, Bells
*Telephonfabrik vorm. F. Berliner, Hannover*

Textile Machinery, Bleaching & Dyeing
Finishing & Printing Plants for Cotton, Linen, Wool
*Fr. Gebauer, Berlin*

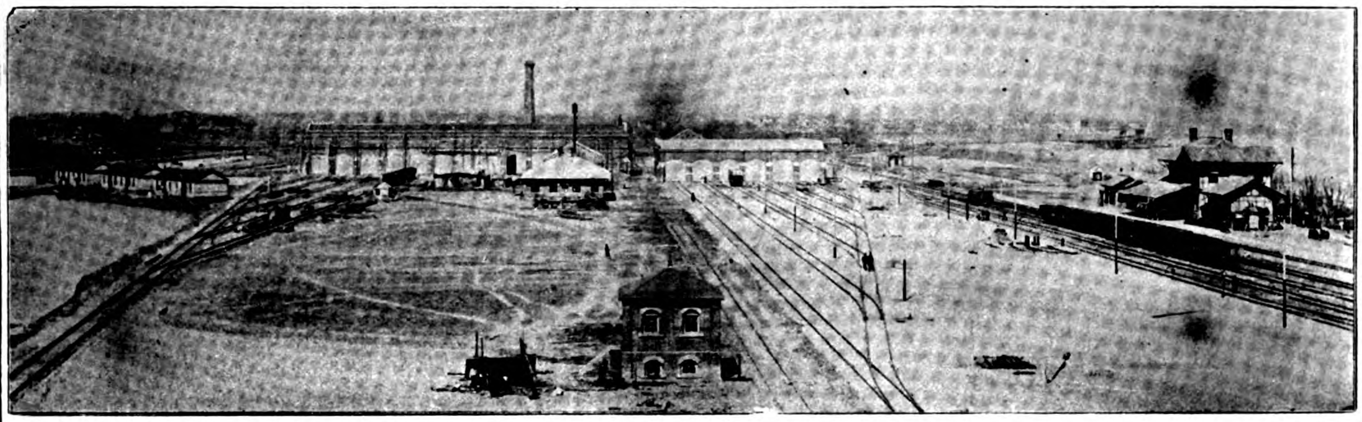
Ice-making & Refrigerating Plants, Centrifugal.
*Leopold Ziegler, Berlin*

Wood-working Machinery, *Teichert & Sohn*

"Atlas" Cranes, Electric Cranes, Differential Blocks
*Eduard Weiler, Berlin*

Steel Constructions, Steel Bridges, etc.
*Louis Eilers, Hannover*

Watermeters, Woltmann Meters
*Bresslauer Metallgiesserei, Breslau*

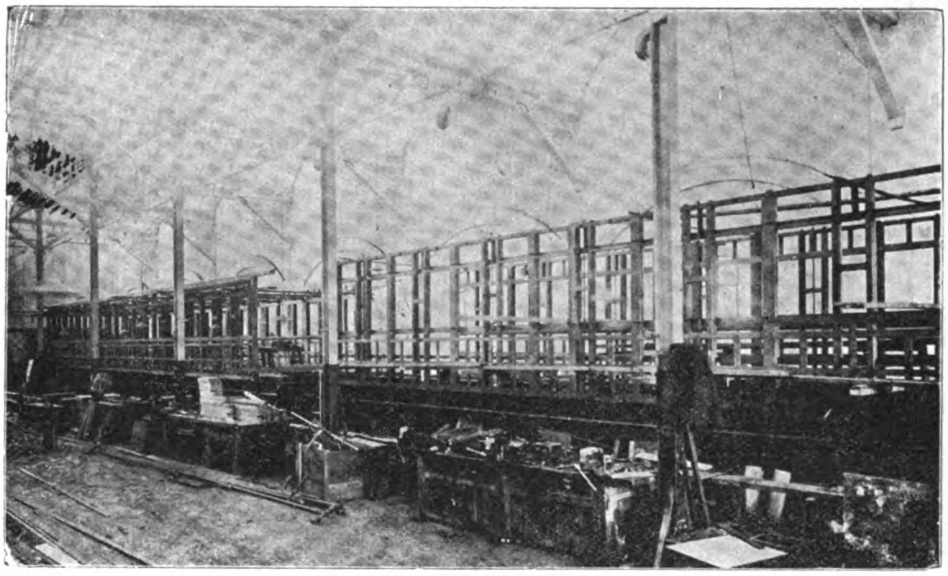


# WOOSUNG CAR SHOPS

OF THE

## SHANGHAI -:- NANKING -:- RAILWAY

LOCATED AT WOOSUNG AT ENTRANCE TO WHANGPOO RIVER, SHANGHAI. DEEP WATER WHARF WITH EVERY FACILITY FOR HANDLING HEAVY MATERIAL.



VIEW OF ERECTING SHOP

THESE SHOPS ARE FULLY EQUIPPED WITH THE MOST MODERN PLANT AND APPLIANCES FOR THE CONSTRUCTION OF CAR BODIES AND SETTING UP CAR PARTS ORDERED FROM ABROAD, ALL UNDER EXPERT SUPERVISION : : : : : : : : : : : : : : : : : :

**CARS FOR THE NANKING CITY RAILWAY, KIANGSU RAILWAY AND THE ANHWEI RAILWAYS WERE SET UP AND FINISHED AT THESE WORKS**

CORRESPONDENCE WITH OTHER RAILWAY COMPANIES SOLICITED

## SHANGHAI NANKING RAILWAY

Managing Director
TAOTAI CHUNG MUN-YEW

General Manager
A. W. U. POPE

Cable Address: STEELYARD, Shanghai

# United States Steel Products Co.

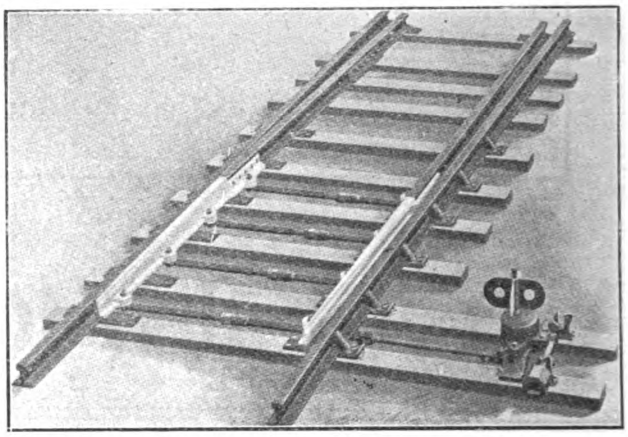
## 24ᴬ KIANGSE ROAD, SHANGHAI

*Exporters of the Products of the*

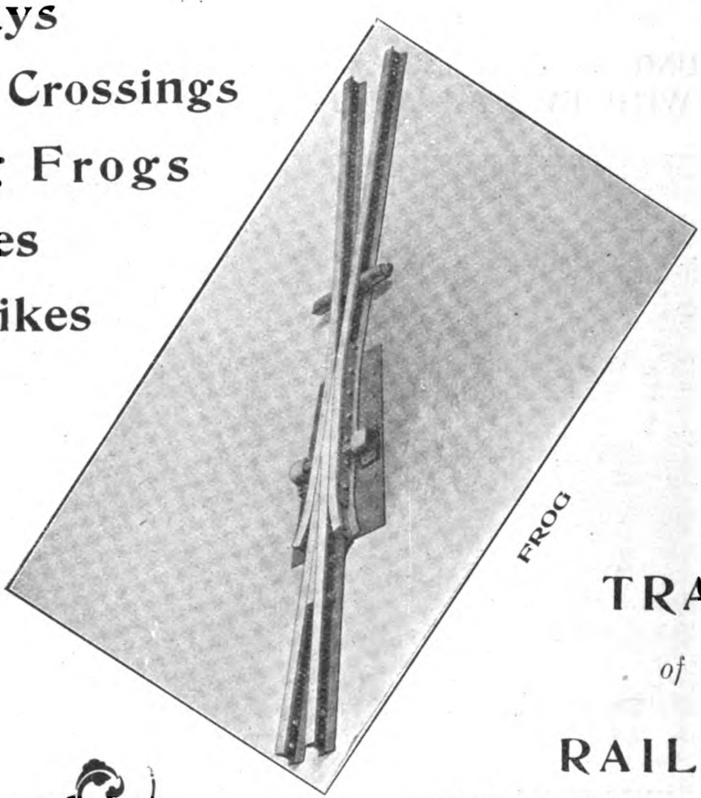
**Carnegie Steel Company**
**Illinois Steel Company**
**Lorain Steel Company**

*Manufacturers of*

**Steel Rails for Railways and Tramways**
**Switch Points and Crossings**
**Rigid and Spring Frogs**
**Steel Cross Ties**
**Bolts, Nuts and Spikes**
**Tubular Poles**
**Coiled Springs for Cars**



SWITCH POINTS



FROG

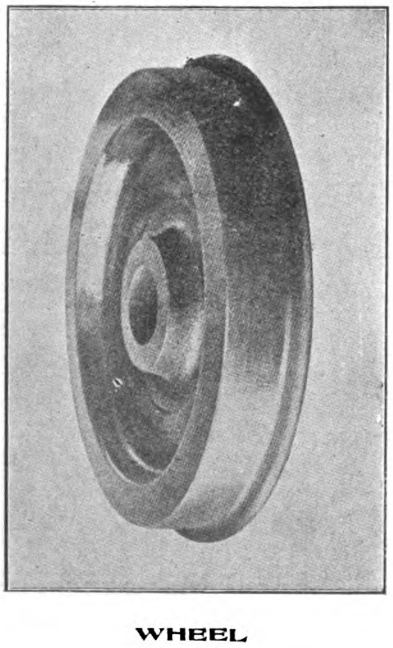
**PORTABLE TRACK**

*for Industrial and Construction Work*

**SPECIAL TRACK WORK**

*of any kind for*

**RAILWAY and TRAMWAYS CONS'T.**



WHEEL

**CARNEGIE STEEL SHEET PILING**
for Cofferdam Work

**SCHOEN SOLID ROLLED STEEL WHEELS**
FORGED STEEL AXLES

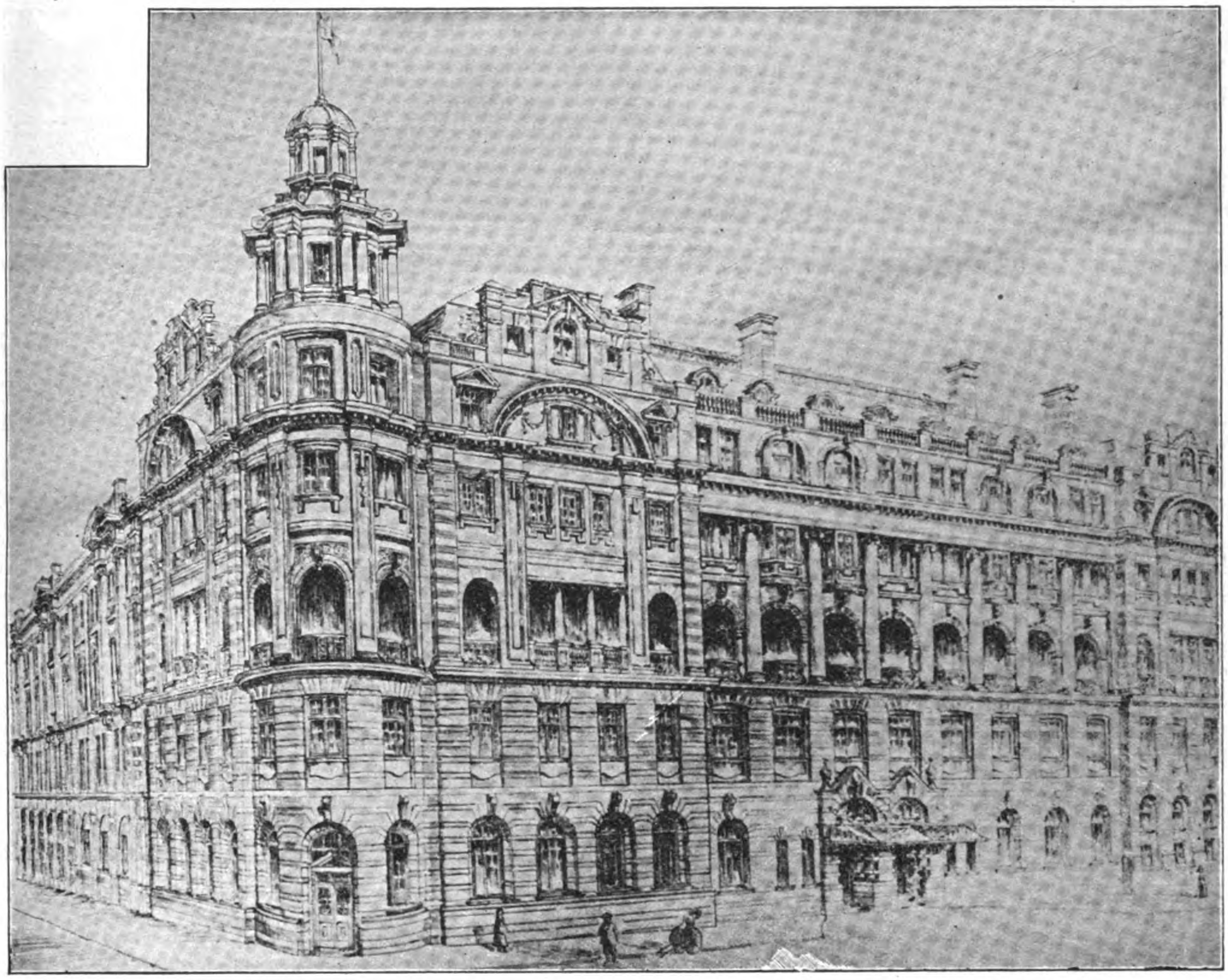
**ESTIMATES AND PRICES**
**Submitted Immediately upon Request**

# ASTOR HOUSE HOTEL CO., LTD.

Cable Address;
"ASTOR" SHANGHAI
Chinese Name: "LEE-ZO"

WILLIAM LOGAN GERRARD
Manager.

Codes Used:
A. B. C. 5th EDITION
WESTERN UNION



*Telephone:*

GENERAL OFFICE. . . . . . 200 MANAGER'S. . . . . . . . . . . 908
SECRETARY'S OFFICE . . . . 500 GUESTS' . . . . . . . . . . . . . 904

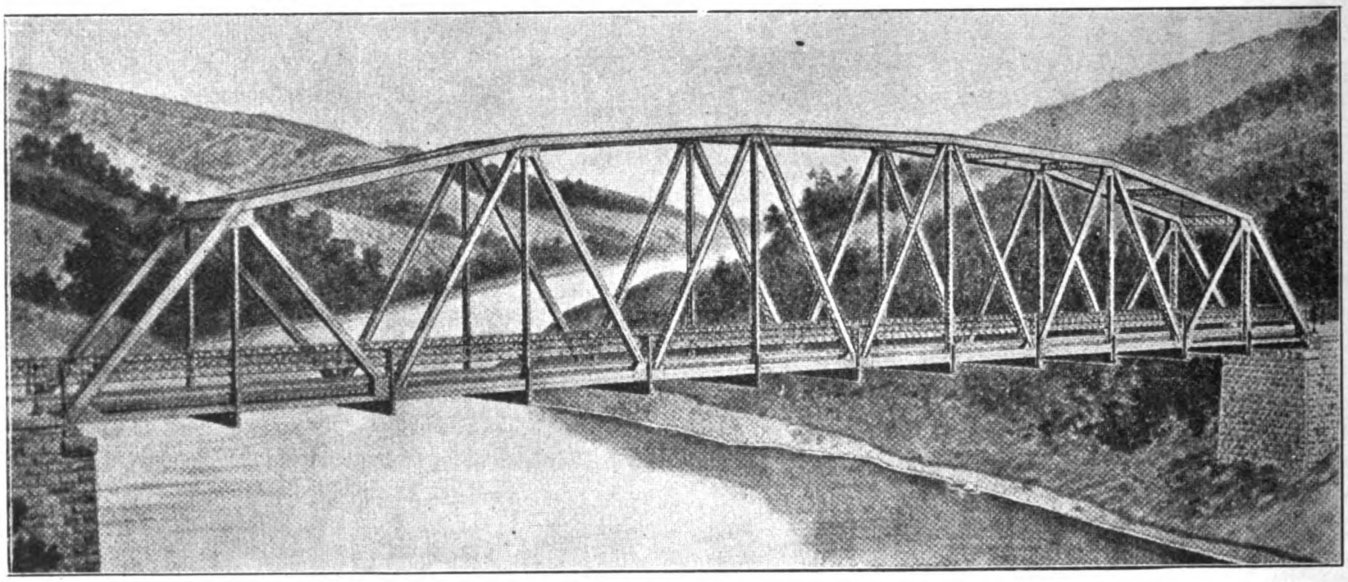
# THE WALDORF-ASTORIA OF THE ORIENT

**Largest, Best and Most Modern Hotel in the Far East. Main Dining Room Seats 500 Guests, and is Electrically Cooled. Two hundred Bedrooms with Hot and Cold Baths Attached to Each Room.**
**Cuisine Unexcelled; Service and Attention Perfect. Summer Garden; American Bar and Billiard Room; Lounge, Smoking and Reading Rooms; Barber and Photographer on the Premises.**

*Rates from $6; Special Monthly Terms*

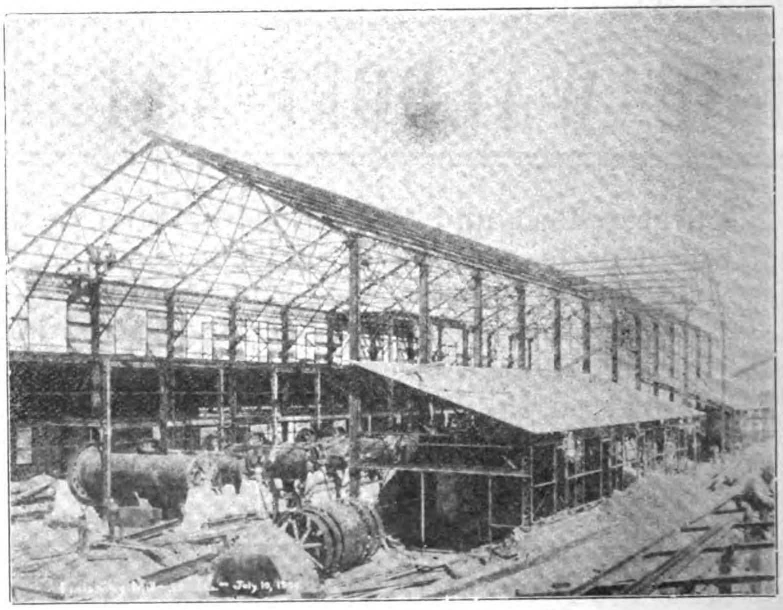
SHANGHAI, CHINA

United States S
Cable Address: STEELYARD
SHA



STANDARD HIGHWAY BRIDGE 180 TO 240 FT. SPAN

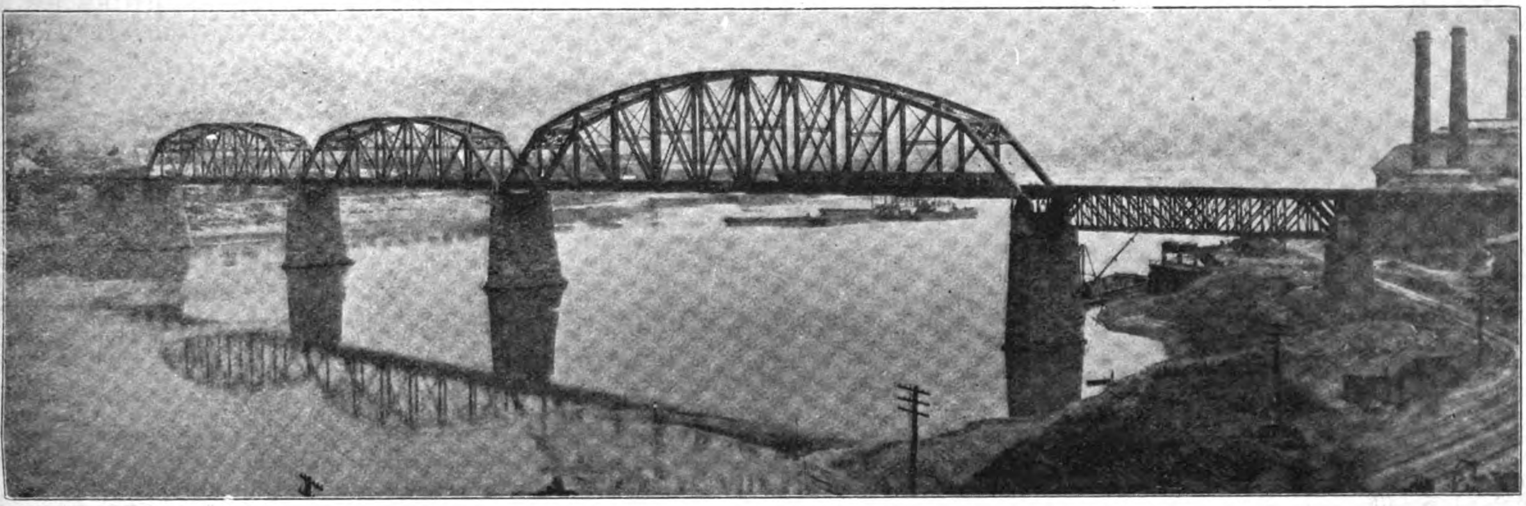
EXPORTERS
OF THE
PRODUCTS
OF THE
*AMERICAN*
*BRIDGE*
*COMPANY*



# el Products Co.

HAI

24-A Kiangse Road



DOUBLE-TRACK BRIDGE 248'6"—407' CC. PIN CONNECTED CHANNEL SPANS

Designs and Estimates

on all kinds of

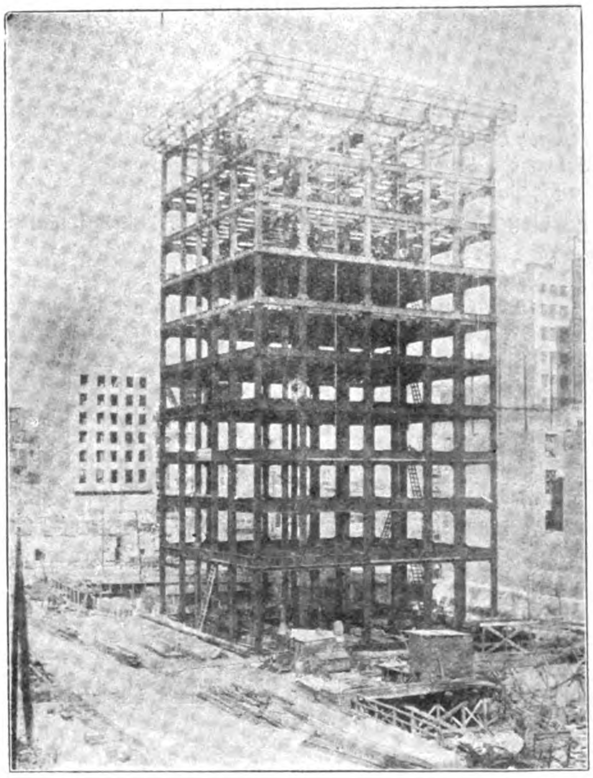
BRIDGE

and

Steel Building Construction

Cheerfully and

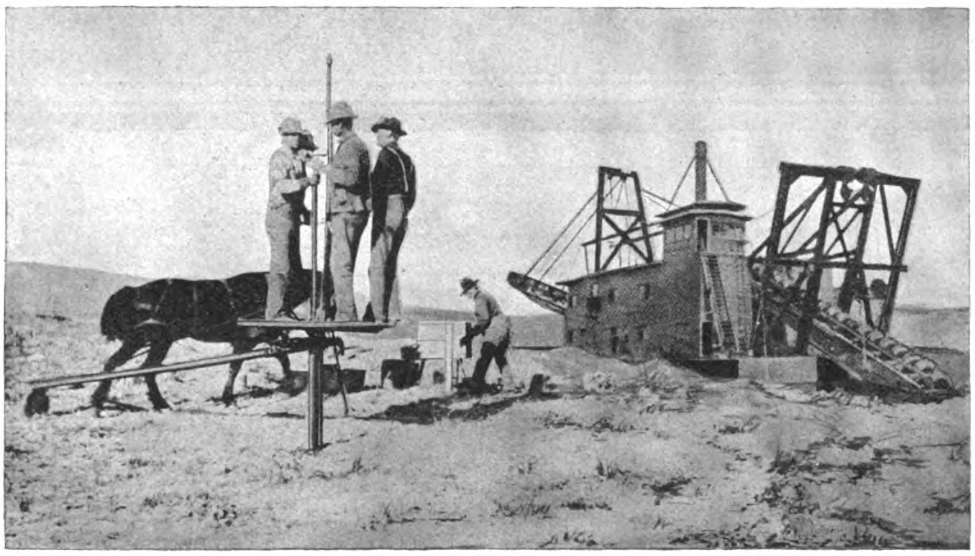
Promptly Submitted



# NEW YORK ENGINEERING COMPANY

WE ARE SPECIALISTS IN BUILDING GOLD DREDGING MACHINERY. THE AMERICAN TYPE OF DREDGE SUCCEEDS WHERE OTHERS FAIL. NO GROUND OR CONDITIONS ARE TOO SEVERE FOR OUR DREDGES AND THEY DIG MORE YARDS PER DAY AT LESS COST THAN ANY OTHER DREDGE IN THE WORLD. WE HAVE SUPPLIED GOLD DREDGES TO ALL PARTS OF THE WORLD AND MANY WITH STEEL HULLS, WHICH IS OUR SPECIALITY.

THIS CUT ILLUSTRATES OUR EMPIRE HAND DRILL OPERATING AHEAD OF ONE OF OUR DREDGES. THE EMPIRE IS THE LIGHTEST, CHEAPEST AND BEST PROSPECTING DRILL IN THE WORLD. IT HAS ENTIRELY REPLACED STEAM DRILLS FOR PLACER WORK AND IS SPECIALLY ADAPTED TO TROPICAL COUNTRIES AND INACCESSIBLE GROUNDS: NO ONE PIECE WEIGHS OVER 75 LBS. IF YOU ARE INTERESTED IN PLACER WORK OR GOLD DREDGING, YOU SHOULD WRITE FOR OUR CATALOGUES AND PRICES BEFORE SELECTING YOUR EQUIPMENT.



**New York Engineering Company**

**2 Rector Street, New York City, N. Y.
U. S. A.**



## The Philippine Journal of Science

Edited by
PAUL C. FREER, M. D., Ph. D.

*A Journal devoted to the scientific work done in the Philippine Islands by the members of the Staff of the Bureau of Science, and by other scientific workers.*

**PUBLISHED BY THE BUREAU OF SCIENCE OF THE PHILIPPINE ISLANDS**

Volume V will begin January, 1910:

| | | |
|---|---|---|
| The entire Journal | $5.00 | U. S. currency |
| Section A, General Science | 2.00 | U. S. currency |
| Section B, Medical Sciences | 3.00 | U. S. currency |
| Section C. Botany | 2.00 | U. S. currency |
| Single Numbers | .50 | U. S. currency |

Each section is separately paged and indexed.

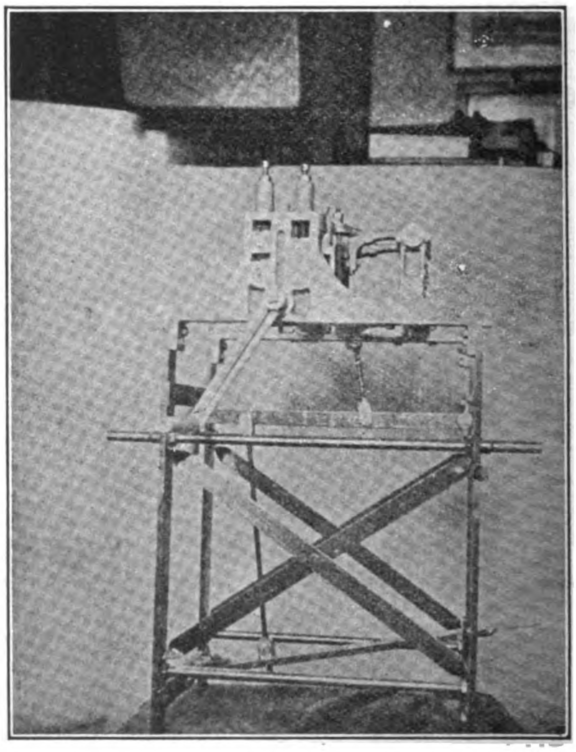
A limited number of unbound copies of previous volumes are available and can be secured from the Director of Printing at the following rates: Volume I, 1906 (not divided into sections) $5, U. S. currency; Supplement to Volume I, $2.50, United States Currency; Volume I (without supplement), $3, United States currency; all later volumes at current subscription prices.

SUBSCRIPTIONS may be sent to the DIRECTOR OF PRINTING, Manila, P. I.



## THE "DAILEY"

**Patent Hand-Power Hemp Cleaning Machine**



**WEIGHT 172 LBS**

Capacity 150 lbs. of clean, white Brilliant Fiber per day.

FOR PRICES AND PARTICULARS *Address*

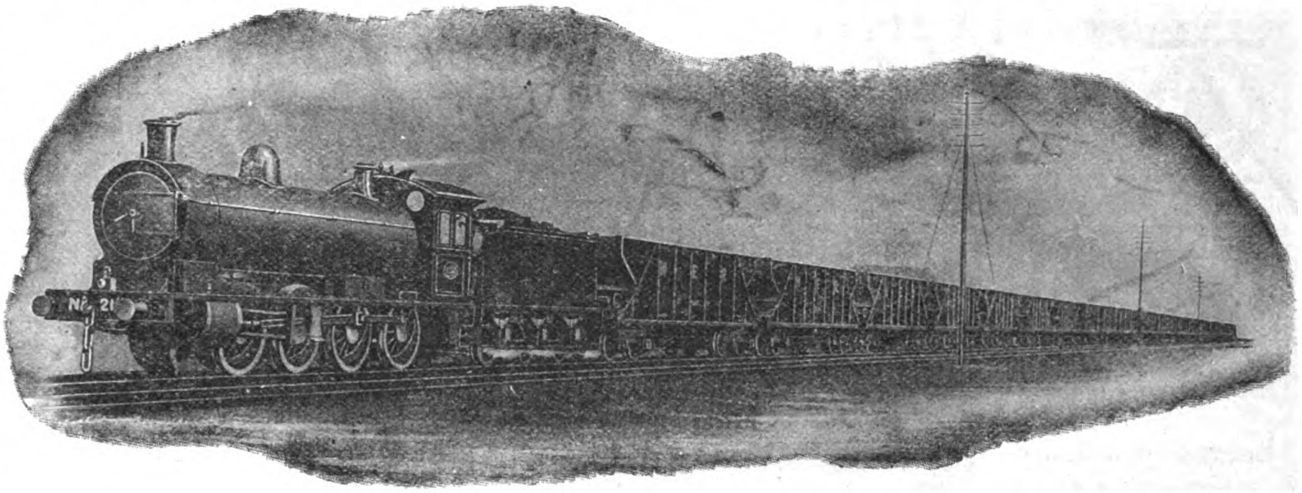
*C. E. DAILEY*

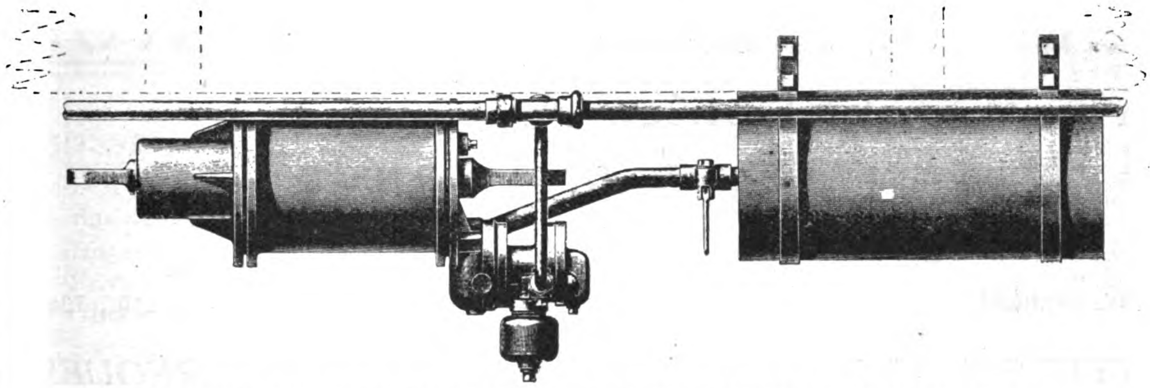
82-92 BEAVER ST. NEW YORK

# THE WESTINGHOUSE BRAKE

N. E. R. Goods Train fitted with the Westinghouse Brake and Friction Draft Gear.

**STANDARD ON MORE RAILWAYS THAN ANY OTHER BRAKE**





APPLICATION OF IMPROVED TRIPLE VALVE TO CHINESE RAILWAY CARRIAGES OR WAGONS

THE 3½" IMPROVED WESTINGHOUSE TRIPLE VALVE: SIMPLE IN CONSTRUCTION AND ESPECIALLY DESIGNED TO MEET THE REQUIREMENTS OF FAR EASTERN RAILWAYS

Manufactured and furnished solely by

**The Westinghouse Brake Co., Ltd.**

London

JARDINE MATHESON & CO., LTD.

Sole Agents for China

# THE PREMIER COMPANY OF THE EAST

## Agencies from London to Manchuria

EXTRACT FROM 12th ANNUAL REPORT SHEWING A RECORD PROGRESS : : :

| | |
|---|---|
| Insurance in Force | $37,855,885 |
| Assets | $ 8,415,250 |
| Income | $ 3,566,559 |
| Total funds | $ 8,216,812 |

*Low Rates!*

*Unconditional Policy!*

*Largest Bonuses!*

Registered under Hongkong Ordinances and under the Life Assurance Companies' Acts, England; and offers its Home-Returning policyholders the Double Advantage of being able to pay their Premiums to the Company's London and American Agents, Messrs. Thomas Cook and Sons, at reduced rates.

THE

# Western-Electric

COMPANY

*FURNISHES EQUIPMENT FOR EVERY ELECTRICAL NEED*

Manufacturers of the celebrated

## "BELL" TELEPHONES

Distributors of Electrical Apparatus
and Materials of all Kinds

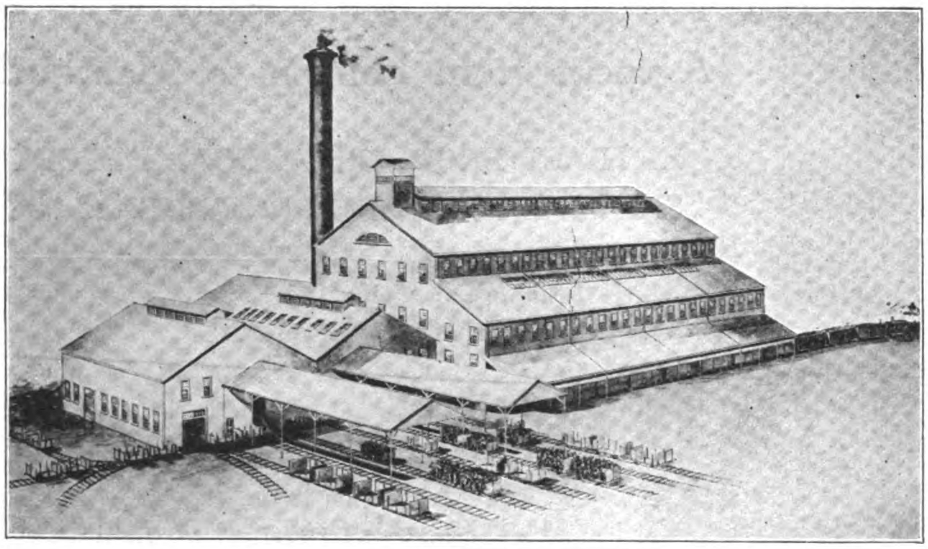
AGENTS FOR CHINA
ARNHOLD, KARBERG AND COMPANY, SHANGHAI

AGENTS FOR JAPAN
NIPPON ELECTRIC COMPANY, LTD., TOKYO

*CATALOGUES, BULLETINS AND ESTIMATES FURNISHED ON REQUEST*

# HONOLULU IRON WORKS COMPANY

Established 1852 HONOLULU, TERRITORY OF HAWAII Rebuilt 1899



EWA MILL DESIGNED BY HONOLULU IRON WORKS COMPANY, FOR A CAPACITY OF 2,400 TONS CANE PER DIEM

BUILDERS OF

## Sugar Machinery

OF ALL DESCRIPTIONS

Sugar Mills
Evaporators
Tanks
Cane Cars
Vacuum Pans
Steam Boilers
Riveted Steel Pipe
Cane Unloaders, Etc.

Consulting Engineers, Designers and Contractors
FOR COMPLETE SUGAR FACTORIES

# HONOLULU IRON WORKS COMPANY

Eastern Office, 11 Broadway, NEW YORK

Cable Address: "HONIRON," Honolulu Codes: A. B. C. 4th and 5th Editions and Western Union

## Have you ever stopped

*to consider that a lubricant that splashes or drips increases the fire risk of a building?*

Increased fire risk means *increased fire insurance rates.*

## ALBANY GREASE

**neither splashes nor drips.**

That's why five underwriters will allow a *lower* rate on buildings containing machinery lubricated with ALBANY GREASE than on buildings containing oil lubricated machinery.

ALBANY GREASE effects many other economies. That's why it's the *cheapest* of all lubricants to *use.*

*You can readily prove, at our expense, what an all-around economical lubricant ALBANY GREASE is for all machinery. Just send us pipe tap, depth of oil hole, where used and name of firm. An Albany Grease cup and trial package of ALBANY GREASE will come to you free.*

**ALBANY LUBRICATING COMPANY**

***Sole Makers***

ADAM COOK'S SONS, *Props.* 313 WEST ST., NEW YORK,

---

## HOTEL DE FRANCE

**PLAZA GOITI, MANILA**

Best Appointed Hotel in Manila in Heart of Business Section.—Large Sample Rooms.—Hot and Cold Water.—Elegant Banquet Hall.—Private Dining Rooms.—French Cuisine.—Guides for Tourists.—Interpreter meets all Steamers.

**Cable Address: CAMS**

---

THE

# CROWN

# IGNITOR

MADE BY

F. H. THOMPSON

MANILA

P. I.

## A High Grade Dry Cell

25 AMPERES OVER

1½ VOLTS

*Guaranteed*

**Specially adapted to cope with Oriental Climatic Conditions.**

**Replace All Others Wherever Used**

---

# SOLIGNUM

THE RAVAGES OF THE **WHITE ANT**, DECAY, FUNGUS AND DRY ROT DESTROY PROPERTY TO THE VALUE OF MILLIONS YEARLY

THE ONLY SURE AND RELIABLE PROTECTION IS

# "SOLIGNUM"

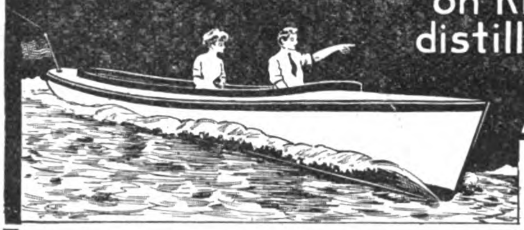
CAN BE APPLIED IN MANY SHADES OF COLOR TO STONE, WOOD OR BRICKWORK. SOLD IN 5 AND 10 GALLON DRUMS AND 40 GALLON CASKS

# PROTECTS

*For Sale by* **THE CHINA IMPORT EXPORT LUMBER CO., Ltd.** SHANGHAI, HANKOW, TIENTSIN, TSINGTAU

*Hongkong and Canton: SIEMSSEN & CO. -:- Foochow: SIEMSSEN & KROHN -:- Amoy: PASEDAG & CO.*

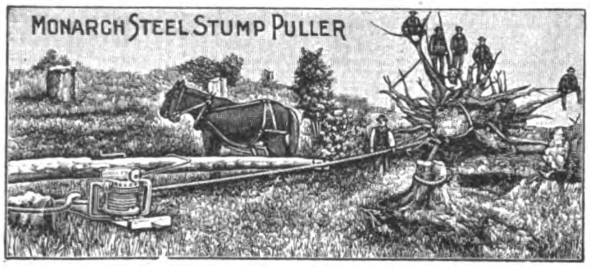
Launches complete ready to run. Engines operate on KEROSENE, (paraffin), Gasoline, (petrol) distillate (COAL OIL) alcohol or naptha
Any one can operate them
All launches guaranteed and tested



High grade pleasure and service motor boats 16, 18, 20, 23, and 27 feet long, ready for use with high grade two cycle reversible Detroit engines installed. Start without cranking and need no lamp; boats absolutely non-leakable, non-sinkable, and non-rustable. NEED NO BOATHOUSE, CANNOT BE EATEN INTO BY WORMS OR BUGS, used throughout the world. Agencies with first-class reputable business houses particularly desired. Bank references exchanged. Will quote prices in your own currency, freight prepaid to any part of the world. Write TO-DAY for our FREE ILLUSTRATED CATALOG giving all information in regard to constructions, dimensions, equipment, etc., and SPECIAL PRICES. UNSOLICITED TESTIMONIALS FROM USERS OF MICHIGAN STEEL IN ALL PARTS OF THE WORLD SENT ON REQUEST.

**MICHIGAN STEEL BOAT CO.,**
Dept. T.—1256-1500 Jefferson Avenue,
DETROIT, MICHIGAN, U. S. A.

**MONARCH STEEL STUMP PULLERS**




Will pull green stumps 7 feet in diameter and will clear from 1 to 5 acres a day. GUARANTEED 700 horse power and against breakage. ONLY stump Puller Factory in the world making their own STEEL CASTINGS. For catalog and discounts, address Dept.

**ZIMMERMAN STEEL CO., Lone Tree, Iowa, U. S. A.**

## EASTERN ENGINEERING COMPANY

**ARCHITECTS AND ENGINEERS**

Special attention paid to Reinforced Concrete Designing : : : : : :

**Correspondence Solicited**

Rooms 10 and 11 LACK & DAVIS Bldg. Manila, P. I.

# J. G. WHITE & COMPANY

**INCORPORATED**

***Engineers, Contractors***
***Purchasing Agents***
***Managers***

**43-49 Exchange Place, New York, N. Y.**

*Alaska Commercial Building*
*SAN FRANCISCO, CALIFORNIA*

*First National Bank Building*
*CHICAGO, ILLINOIS*

**LONDON CORRESPONDENTS**

**J. G. WHITE & COMPANY, Limited, 9 Cloak Lane, E. C.**

Business Founded 1795 Reorganized 1879

# AMERICAN BANK NOTE COMPANY

**BROAD AND BEAVER STREETS, NEW YORK, U. S. A.**

The relations of this Company with foreign governments and corporations have grown in intimacy until it has come to occupy a unique position in the world of business. The Company has enjoyed the confidence of governments and corporations because it has insisted on constant experimenting by way of improving old methods and inventing new.

Its work is the engraving and printing of banknotes, stock certificates, bonds, drafts, checks, bills of exchange, stamps, etc., with SPECIAL SAFEGUARDS to PREVENT COUNTERFEITING.

Its lithographic department is prepared to meet the demand for less expensive work with the same fidelity in preparation and the same safeguards during manufacture as that accorded the work engraved from steel plates.

GATES BREAKER

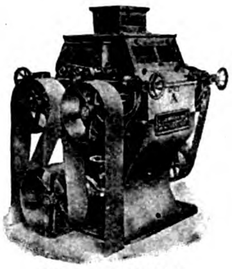
BAND MILL

# ALLIS-CHALMERS COMPANY

BLAKE CRUSHER

INDUCTION MOTOR

BUILDERS OF STEAM TURBINES, HYDRAULIC TURBINES,
GAS ENGINES, STEAM ENGINES, GENERATORS & MOTORS


ROLLER MILL

Crushing and Cement Making Machinery
Flour Mill and Saw Mill Equipment
Mining Machinery, Pumping Machinery

ELECTRIC HOIST

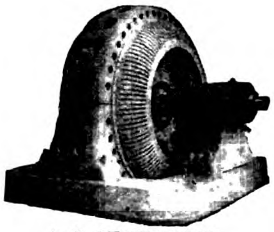
EASTERN REPRESENTATIVES:

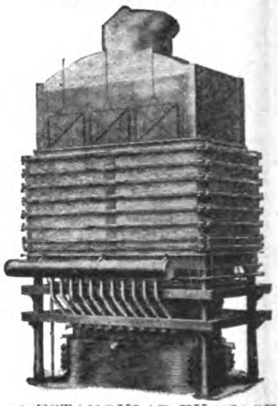
AMERICAN TRADING CO. Shanghai, China

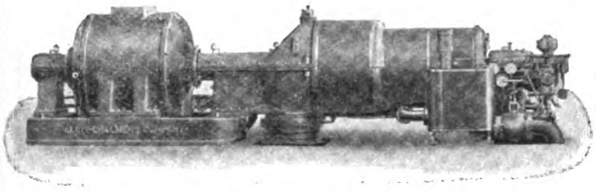
AMERICAN TRADING CO. Yokohama and Kobe, Japan

FRANK L. STRONG, Manila, P. I.

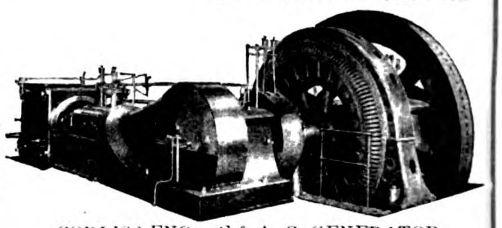
General Offices:—Milwaukee, Wis., U. S. A.


A. C. GENERATOR


RECTANGULAR FURNACE

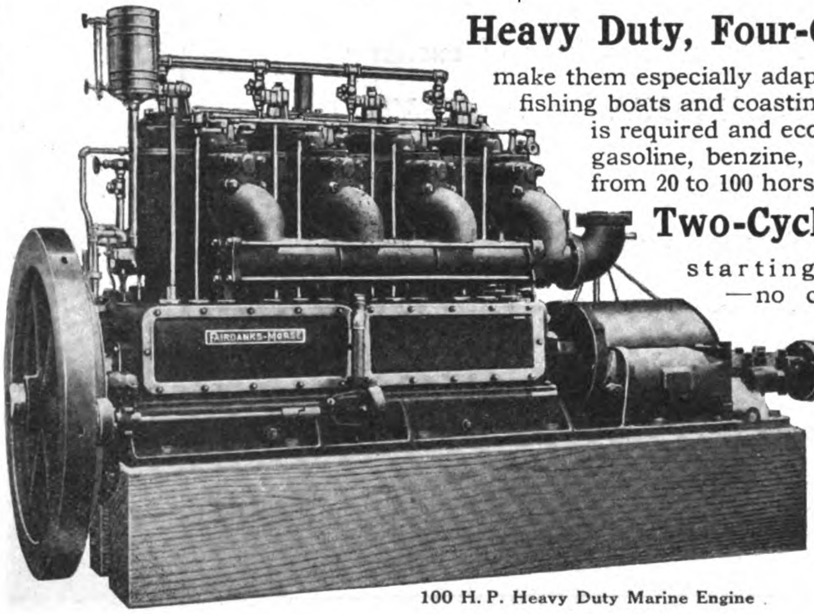

STEAM TURBINE UNIT

GAS ENGINE & A. C. GENERATOR

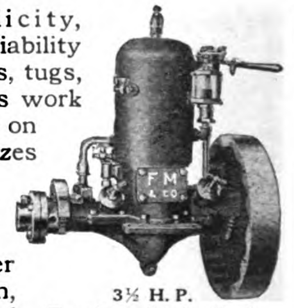

CORLISS ENGINE & A. C. GENERATOR



# Fairbanks-Morse Marine Engines


100 H. P. Heavy Duty Marine Engine

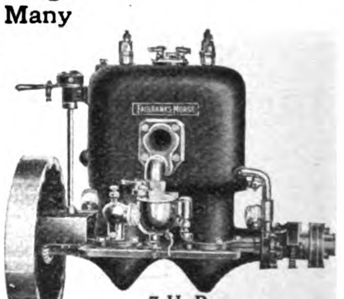
**Heavy Duty, Four-Cycle Type** Their simplicity, strength and reliability make them especially adapted for service in cruising yachts, tugs, fishing boats and coasting vessels, where hard, continuous work is required and economy of fuel is a factor. Operate on gasoline, benzine, kerosene or alcohol. Built in sizes from 20 to 100 horsepower.


3½ H. P.
Two-Cycle Marine Engine

**Two-Cycle Type** 3½ to 45 horse-power. Safety starting device. No trouble—no danger—no cranking. Cylinder, crank, piston, rings, pin and shaft are ground true on special machines. Large hand hole in crank case. Many other patented features found on no other engine.

## Guaranteed for One Year

Each engine is tested and must develop more than rated horsepower before it leaves the factory. When you buy ***Fairbanks-Morse*** engines you know that you are getting the best design, material and construction that can be offered.


7 H. P.
Two-Cycle Marine Engine

*Mention this publication and send at once for Catalog No. 956 TF.*

**FAIRBANKS, MORSE & CO., Chicago, Ill., U. S. A.**

*Agents* { Manila—CASTLE BROS. — WOLF & SONS
Hong Kong—DODWELL & CO., Ltd.

Shanghai—CHINA GENERAL ENG. CO.
Singapore—FRASER & CHALMERS, Ltd.

# The Han-yeh-ping Iron and Coal Co., Ltd.

**Telegraphic Address**
**"HANSTEEL"**

**Codes used:**
**A.B.C. 5th Ed., Western Union and Engineering Telegraph Codes.**

**HEAD OFFICE**
## 110, Bubbling Well Road, Shanghai, China.

The following Works and Mines, the property of the Company, are in active operation:—

HANYANG IRON AND STEELWORKS—situated in Hanyang (Hankow).
PINGHSIANG COLLIERY—situated in Pinghsiang, at border between Kiangsi, and Hunan Province.
TAYEH IRON MINES—situated in Tayeh on the Yangtsze River 72 miles below Hankow.

## HANYANG IRON AND STEEL WORKS

**Works Head Office in Hanyang**

**Sales Office:—45 Szechuen Road, Shanghai, and also in Hongkong and Canton.**

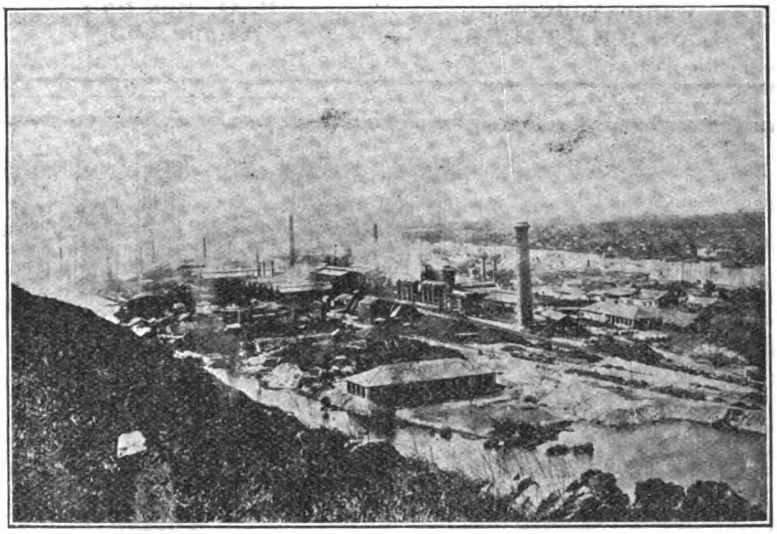
**Representative in Australia:—*L. H. DRAKEFORD.***

PIG IRON

*Foundry*—Largely exported to Japan and America, where it finds the highest favor—Sold by Grain—Can be cast over again.
*Basic Iron*—For steel making also largely exported to America and Japan.

STEEL MATERIALS

All steel is made by the Siemens-Martin process and supplied to pass any standard tests.
*Railway Supplies*—Standard-Gauge Rails from 50 lbs. per yard (25 kg. per m.) up to 100 lbs. (50 kg. per m.)
*Narrow Gauge Rails*—from 16 lbs. per yard (8 kg. per m.) up to 50 lbs. (25 kg. per m.)
*Fishplates, Spikes, Bolts and Nuts.*
*Structural Shapes*—Bars, Plates and Angles, etc.



SHIPPING DEPARTMENT

The light draft steamer *Hanping*, fitted with electric lights and strong derricks and running between Hankow and Shanghai, is the best steamer to handle heavy machinery in the Yangtsze River.

WHARF—The Company owns a wharf in Shanghai, situated at Nam Ma Tau on the Pootung Side a little below the Kiangnan Arsenal, with a frontage of about 900 feet and offering excellent accommodation for the storage of Coal or Timber.

For particulars and terms, apply to the Sales Office, No. 45 Szechuen Road, Shanghai.

## PINGHSIANG COLLIERY

**Head Offices and Shipping and Sales Offices:**

**No. 1 Poyang Road, Hankow =:= Sales Office, Shanghai, 45 Szechuen Road**

**COAL**—Best Steaming Coal—Navy Lump, Run of the Mines, and Washed Nuts. Stocks kept in Yochow, Hankow, Kiukiang, Wuhu, Nanking, Chinkiang, and Shanghai.

Contracts made with the following Companies for the supply of Bunker Coal:—

Messrs. Butterfield & Swire, The Hamburg Amerika Linie, The East Asiatic Co., Ltd., Tung Kee & Co., The Asiatic Petroleum Co., The Standard Oil Co. of New York, and the Robert Dollar Co.

Suppliers also to the following Navies:—

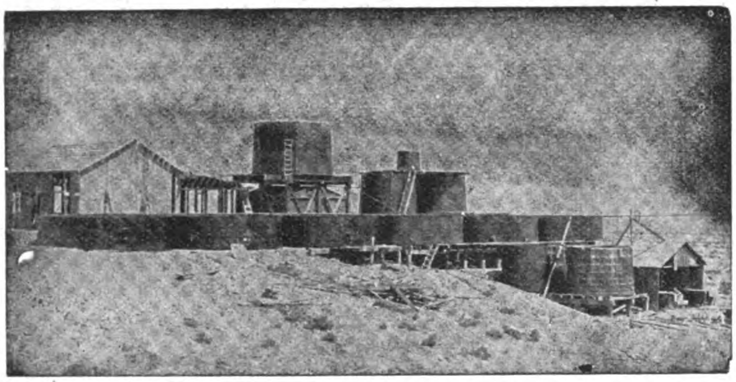
The Imperial Chinese Navy, The British, German, and French Navies.

**COKE.**—Foundry and Blast Furnace—Exported also to Japan and America.

**For particulars as regards prices, etc., application may also be made to Johnsen & Herlofson, 8 Kiangse Road, Shanghai.**

WHAT DO YOU KNOW ABOUT

**WOOD WATERPIPE AND TNKS?**



AS MANUFACTURED BY THE

**PACIFIC TANK & PIPE CO.**

SUCCEEDING

NATIONAL WOOD PIPE CO. -:- PACIFIC TANK CO.

OUR SPECIALTIES

Wooden Water Pipe For

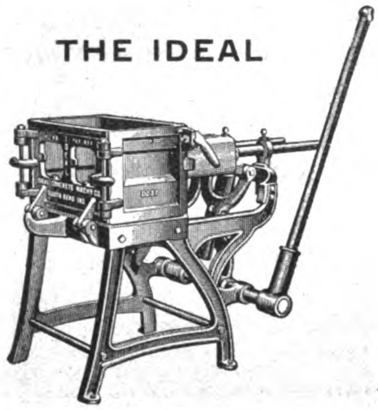
Power Plants, Irrigation Systems, City Water Supply

Machine Banded Pipe in Sizes From 2-in to 24-in. diameter. Continuous Stave Pipe In Sizes From 12-in. to 12-ft. Head. Pressures Up To 400-ft.

Send For Our Latest Printed Matter

318 MARKET ST., SAN FRANCISCO, CAL., U. S. A.

THE IDEAL



**THE LAMBERT-SPRINGER CO., INC.**

**Fortunes for the Enterprising**

The Hollow Concrete Block Has Come to Stay. It is Economical, Sanitary and Attractive. The Ideal Concrete Machine Makes Blocks of any Design—Machines Available at Small Cost—Suited to Construction Work in Tropics.

99—107 Plaza Santa Cruz, Manila

Cable Address: LAMBERTMES

P. O. Box 885
Phone 433

Codes: Western Union
A. B. C. 5th Ed. and Private

**Malthoid Roofing** AND P & B PRODUCTS

MALTHOID ROOFING is specified by the best Architects and Engineers and used by the best contractors on all notable buildings in the Far East.

MALTHOID ROOFING is past the experimental stage and is a recognized standard of roofing.

When laid according to our specifications it is guaranteed.

For booklet and samples write to your nearest Agent.

FAR EASTERN AGENCIES:

| | |
|---|---|
| SHANGHAI | Messrs. Samuel, McGregor & Co., Ltd. |
| TIENTSIN, China | Messrs. William Fobes & Co. |
| HANKOW, China | Messrs. Westphal, King & Ramsay, Ltd. |
| HONGKONG and CANTON | Messrs. Arnhold, Karberg & Co. |
| VLADIVOSTOCK, Kharbin, Kharbarwjsk and Blagovestcheonst | Messrs. Kunst & Albers. |
| TOKYO, Kobe, Dalny and Seoul | Messrs. Fujiwara & Co. |
| SINGAPORE and PENANG | Paterson, Simons & Co. Ltd. |
| BANGKOK, Siam | Messrs. G. Kluzer & Co. |
| SAIGON | Messr. Allitine & Co, |

Java and Dutch East-Indies "LINDETEVES Sourabaya and Samarang

DISTRIBUTERS FOR THE PHILIPPINES

CALIFORNIA MANILA LUMBER COMMERCIAL CO.

Offices: LACK & DAVIS Bldg. Salesrooms under HOTEL METROPOLE

## "FIGHTING BOB"

*Admirals*
*Commanders*
*Lieut.-Commanders*
*Ensigns*
*Cadets*

*Divinos*
*Perfectos*
*Regalias*
*Bouquets*
*Londres*

## "JOSE RIZAL"

*Generals*
*Colonels*
*Majors*
*Captains*
*Lieutenants*

*Perfectos*
*Sergeants*
*Corporals*
*Privates*
*Londres*

**BY MEN WHO KNOW** the value of a good cigar, these two brands are particularly appreciated. They represent the real worth of a cigar in quality and workmanship; the two most essential features of a good smoke. They are manufactured from the most carefully selected leaf grown in the rich fields of Isabela Province, and no expense is spared in the preparation of the filler as well as the wrapper, and the result is a cigar that is as perfect as is possible to manufacture. : : : : : :

**MILD, FRAGRANT SATISFYING** Three important requisites so often found lacking in the usual run of cigars. That's why they sell. Smoke any shape in critical comparison with the best cigar you know of equal money value and prove to your own satisfaction that these cigars are a revelation of excellence in point of aroma as well as shape. Don't be put off when the dealer offer you "something just as good." Remember the money is yours, and that dealers seldom offer substitutes for your benefit. : : : : : : : : : : : : : :

FOR SALE BY ALL LEADING HOTELS, CLUBS, BARS AND FIRST CLASS CIGAR STORES

**KIOSKO HABANERO**
*27 ESCOLTA*

*MANILA, P. I.*

**KIOSKO RIZAL**
*168-170 ESCOLTA*

# BANCO ESPAÑOL FILIPINO

(ESTABLISHED 1851)

## Depository for the Government of the Philippine Islands

Capital Fully Paid up ........ P2,596,000.00
Reserve Fund .......................... 408,715.63

## *London Bankers*

***THE NATIONAL BANK OF SCOTLAND, LTD.***

Buys and sells Drafts on Spain, France, Germany, England and other countries.

**TELEGRAPHIC TRANSFERS**

Interest allowed on fixed deposits and current accounts at usual rates.

**GENERAL BANKING BUSINESS**

BRANCH IN ILOILO

PRESIDENT
JOHN S. HORD

VICE-PRESIDENT
GONZALO MARZANO

**NO. 10 PLAZA DE CERVANTES**

## THE CHINESE ENGINEERING AND MINING Co., LTD.

# KAIPING COAL COKE

FOR ALL INDUSTRIAL AND HOUSEHOLD PURPOSES

## CARGO

SHANGHAI TO MOUKDEN CARRIED AT

## THROUGH RATES

THROUGH PASSENGER SERVICE WITH TIENTSIN, PEKING, SHANHAIKWAN AND NEWCHWANG VIA CHINWANGTAO, RETURN TICKETS INTERCHANGEABLE WITH HAMBURG-AMERICA LINE. CIRCULAR TOURS TO TIENTSIN AND PEKING VIA HANKOW AND LUHAN RAILWAY RETURNING BY SEA OR VICE VERSA

# FIREBRICKS

FIRECLAY AND SPECIAL BLOCKS OF ALL KINDS

SALT GLAZED STONEWARE PIPES

## THE CHINESE ENGINEERING AND MINING CO., LIMITED

Head Office: TIENTSIN.
SHANGHAI, 1 Jinkee Road.
HONGKONG, Alexandra Buildings.

CHEFOO: Anz & Co.
WEIHAIWEI: Lavers & Clark.
HANKOW: C. Monbaron, Esq.
DALNY: Cornabe, Eckford & Co.
TSINGTAU, NEWCHWANG, MUKDEN: Arnhold, Karberg & Company.
PEKIN: J. Redelsperger, Esq.
SINGAPORE: Adamson, Gilfillan & Company, Ltd.

AGENCIES

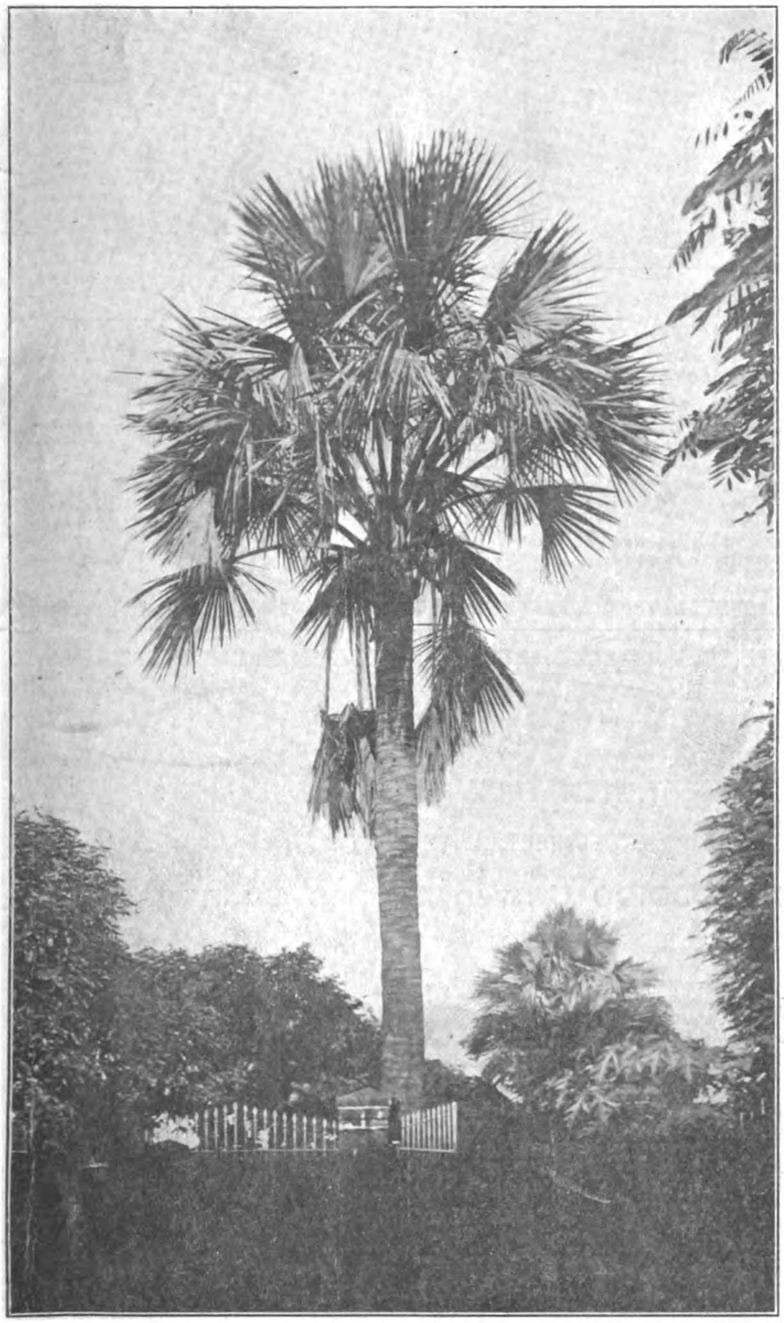
The addresses of the Company's Agencies are as follows:

| | | | Telegraphic Address. |
|---|---|---|---|
| TIENTSIN | C. E. & M. Co., Ltd., Office | | MAISHAN |
| TONGKU | do. | | MAISHAN |
| CHINWANGTAO | do. | | MAISHAN |
| HONGKONG | do. Alexandra Buildings | | MAISHAN |
| SHANGHAI | do. 1 Jinkee Rd. | | SILI |
| CHEFOO | Anz & Co. | Agents | MAISHAN |
| DALNY | Cornabe, Eckford & Co. | ,, | CORNABE |
| WEIHAIWEI | Lavers & Clarke | ,, | MAISHAN |
| TSINGTAU | Arnhold Karberg & Co. | ,, | MAISHAN |
| NEWCHWANG | Arnhold Karberg & Co. | ,, | MAISHAN |
| MUKDEN | Arnhold Karberg & Co. | ,, | MAISHAN |
| HANKOW | C. Monbaron | ,, | MONBARON |
| SINGAPORE | Adamson, Gilfillan & Co., Ltd. | ,, | GILFILLAN |
| PEKING | J. Redelsperger | ,, | REDELSPERGER |
| LONDON | C. E. & M. Co., Ltd., Office 22 Austin Friars E. C. | | KAIMACS |
| BRUSSELS | do. 48 Rue de Namur | | KAIPING |

China, Manchuria, Japan, Indo-China, Siam, Straits Settlements, Malay States, Burma, India, Malaysia, and the Philippines

# THE FAR EASTERN REVIEW

VOL. VII.—No. 7. MANILA, SHANGHAI AND YOKOHAMA, DECEMBER, 1910. 50 Centavos Philippine Currency 25 Cents. U. S. C.



The Buri Palm, One of Most Valuable Sources for Hat Material in the Philippines.

The Philippine Hat Industry

Federated Malay States Railways

Trade of Tientsin

Philippine Public Works

General News and Comment

## ENGINEERING
## COMMERCE & FINANCE

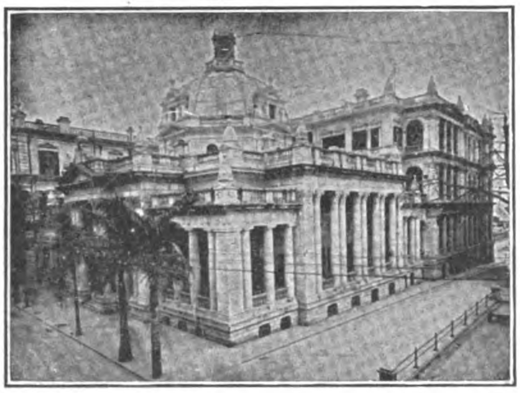
# Hongkong and Shanghai Banking Corporation

*DEPOSITORY OF THE GOVERNMENT OF THE PHILIPPINE ISLANDS*

**Capital (Paid in Cash).........$15,000,000**
**Sterling Reserve Fund......$15,000,000**
**Silver Reserve Fund............$16,000,000**
**Reserve Liability of Prop'rs.$15,000,000**

COURT OF DIRECTORS:

G. BALLOCH, Esq.
Chairman.
R. SHEWAN, Esq.
Deputy Chairman.
F. H. ARMSTRONG, Esq.
G. FRIESLAND, Esq.
HON. MR. HENRY KESWICK.
C. R. LENZMANN, Esq.
S. A. LEVY, Esq.
F. LIEB, Esq.
G. H. MEDHURST, Esq.
W. LOGAN, Esq.
H. A. SIEBS, Esq.
ANDREW FORBES, Esq.



Head Office, Hongkong and Shanghai Banking Corporation, Hongkong

BRANCHES AND AGENCIES:

AMOY
BANGKOK
BATAVIA
BOMBAY
CALCUTTA
CANTON
COLOMBO
FOOCHOW
HAMBURG
HANKOW
HONGKEW (SHANGHAI)
HONG-KONG
IPOH
JOHORE
KOBE
KUALA LUMPUR
LONDON
LYONS
MALACCA
MANILA
NAGASAKI
NEW YORK
PEKING
PENANG
RANGOON
SAIGON
S. FRANCISCO
SHANGHAI
SINGAPORE
SOURABAYA
TIENTSIN
YLOILO
YOKOHAMA

CORRESPONDENTS—In Samar and Leyte: WARNER, BARNES & CO., LTD.
CORRESPONDENTS—In Cebu: KER & CO.
LONDON OFFICE—31 Lombard St.
LONDON BANKERS—London & County Banking Co., Ltd.

*Interest Allowed on Fixed Deposits at Rates which may be Learned on Application. Credit Granted on Approved Securities and Every Description of Banking and Exchange Business Transacted. Drafts Granted on London and the Chief Commercial Places in Europe, India, Australia, America, China and Japan.*

**J. M. SMITH, Chief-Manager - - - HONGKONG**
**A. M. REITH, Acting Manager - - - MANILA**

WADE GARDNER, Agent, 50 Wall Street, New York.
W. H. HARRIES, Agent, 401 Montgomery Street, San Francisco

# INTERNATIONAL BANKING CORPORATION

**HEAD OFFICE, 60 WALL STREET, NEW YORK**

**LONDON OFFICE, THREADNEEDLE HOUSE, BISHOPSGATE STREET, WITHIN, E. C.**

**CAPITAL PAID UP AND SURPLUS, $6,500,000.00 UNITED STATES CURRENCY**

**THOMAS H. HUBBARD, President**
**JAMES S. FEARON, Vice-President**

## BRANCHES

Bombay
Calcutta
Canton
Cebu
Colon
City of Mexico
Empire, C. Z.
Hankow
Kobe
Manila
Panama
Peking
San Francisco
Shanghai
Singapore
Washington, D. C.
Yokohama

AGENCIES AND CORRESPONDENTS IN ALL PRINCIPAL CITIES OF THE WORLD
DESIGNATED DEPOSITORY FOR THE FUNDS OF THE GOVERNMENT OF THE PHILIPPINE ISLANDS
AND FOR THE FUNDS OF THE GOVERNMENT OF THE CANAL ZONE
GENERAL FOREIGN BUSINESS TRANSACTED
COMMERCIAL AND TRAVELLERS' LETTERS OF CREDIT ISSUED
BILLS OF EXCHANGE AND CABLE TRANSFERS BOUGHT & SOLD

# THE YOKOHAMA SPECIE BANK LTD.

**Capital (Paid-up): Yen 24,000,000** **Reserved Fund: Yen 15,900,000**

**HEAD OFFICE YOKOHAMA**

**PRESIDENT**

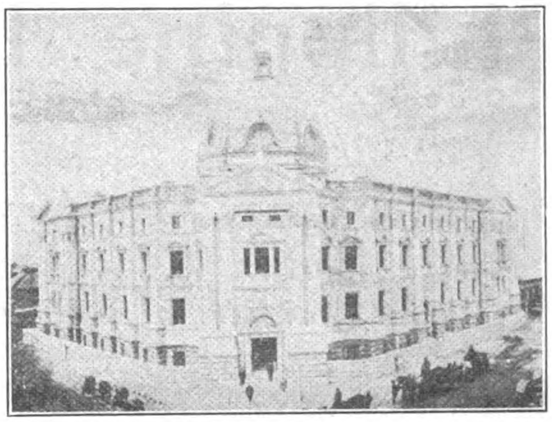
BARON KOREKIYO TAKAHASHI

**DIRECTORS**

NAGATANE SOMA, ESQ.
RIEMON KIMURA, ESQ.
IPPEI WAKAO, ESQ.
MASUNOSUKE ODAGIRI, ESQ.
TCHUNOSUKE KAWASHIMA, ESQ.
KOKICHI SONODA, ESQ.
ROKURO HARA, ESQ.
YUKI YAMAKAWA, ESQ.
VISCOUNT YATARO MISHIMA
HYOKICHI BEKKEY, ESQ.

**GENERAL MANAGER**

YUKI YAMAKAYA, ESQ.



HEAD OFFICE OF THE YOKOHAMA SPECIE BANK, YOKOHAMA

**HEAD OFFICE**

Every description of Banking business transacted.

For particulars, apply to the Manager.

Certified cheques on this Bank will be taken by the Custom House as cash in payment of duty.

Special Safe Deposit Boxes are provided in the Vault of the Bank.

T. KAWASHIMA, Manager

Yokohama, September, 1909.

**BRANCHES AND AGENCIES:**

| | | | | | |
|---|---|---|---|---|---|
| Tokyo | Hankow | Osaka | Newchwang | Lyons | Ryojun (Port Arthur) |
| Nagasaki | Peking | London | Liaoyang | Honolulu | Fengtien (Mukden) |
| New York | Dairen (Dalny) | San Francisco | Antung-Hsien | Shanghai | Changchun |
| Bombay | Tiehling | Hongkong | Kobe | Tientsin | |

Correspondents at all the chief commercial cities in the world.

**LONDON BANKERS:**

*Parr's Bank, Ltd.*
*Union of London & Smith's Bank, Ltd.*
*London Joint Stock Bank, Ltd.*

# RUSSO-ASIATIC BANK

**CAPITAL (Fully Paid)......... Roubles 35,000,000**
**RESERVE FUND. ..... .. ......... Roubles 11,666,666.67**
**Special Reserve Fund.......... Roubles 5,338,480.93**
**Capital contributed by Imperial Chinese Government....... Kpg. $3,500,000**
**Reserve Fund............................ Kpg. $1,670,000**

HEAD OFFICE: ST. PETERSBURG

PARIS OFFICE: 2 RUE LE PELETIER
LONDON OFFICE: 41 THREADNEEDLE ST., E. C.

86 Branches in Russia & Siberia and 25 Branches in Europe, Asia and America.

TEL. ADDRESS: SINORUSSE

**BANKERS**

**London:** *Mssrs. Glyn, Mills Currie & Co.*
**Paris:** *Societe Generale pour favoriser le developement du Commerce et de l'Industrie en France.*
*Banque de Paris et des Pays-Bas.*
**Berlin:** *Messrs. Mendelssohn & Co.*
**Hamburg:** *Messrs. M. M. Warburg & Co.*
**Vienna:** *K. K. priv. Oesterr. Credit Anstalt fur Handel & Gewerbe.*
**Amsterdam:** *Messrs. Lippmann Rosenthal & Co.*

Interest allowed on Current Accounts in Taels at the rate of 2 per cent. per annum on the daily balance.
Fixed Deposits in Taels and Dollars. Terms on application.
Local Bills discounted. Special facilities for Russian Exchange. Foreign Exchange on the principal cities of the world bought and sold.
Safe Deposit Boxes.

**H. AUBERT & L. JEZIERSKI, Managers for China & Japan.**

# Deutsche-Asiatische Bank
# Shanghai

**Berlin, Calcutta, Hankow, Hamburg, Hongkong, Peking, Tientsin, Tsinanfu, Tsintau, Yokohama, Kobe, Singapore.**

**PAID-UP CAPITAL........... .... ....... SH. TLS. 7,500,000**

*Founded in 1889 by the following Banks and Bankers:*

Koenigliche Seehandlung (Preussische Staatsbank), Berlin.
Direction der Disconto-Gesellschaft, Berlin.
Deutsche Bank, Berlin.
S. Bleichroder, Berlin.
Berliner Handels-Gesellschaft, Berlin.
Bank fur Handel & Industrie, Berlin.
Robert Warschauer & Co., Berlin.
Mendelssohn & Co., Berlin.
M. A. von Rothschild & Sohne, Frankfurt o/M.
Jacob S. H. Stern, Frankfurt o/M.
Norddeutsche Bank in Hamburg.
Sal. Oppenheim jun. & Co., Cologne.
Bayerische Hypotheken & Wescheel Bank, Munich.

*London Bankers:*

Messrs. N. M. Rothschild & Son.
Union of London & Smith's Bank, Ld.
Deutsche Bank (Berlin), London Agcy.
Direction der Disconto-Gesellschaft.

*New York Agents:*

Schulz & Ruckgaber, 15 William Street

Every Description of Banking and Exchange Business Transacted.
Interest allowed on Current Accounts at 2 per cent per annum on the daily balance. Current accounts kept in taels and dollars.
Interest allowed on Fixed Deposits according to arrangement.
Local Bills discounted.
Every description of Banking and Exchange Business transacted.

R. TIMMERSCHEIDT, *Manager*,
Shanghai.

# A NEW EL DORADO

## The Philippine Islands

*A Virgin Field Awaiting The Investor. Rich in Minerals, Hardwoods, and Agricultural Products*

Gold Production Increased 150% last year
Coal and Oil Fields Being Developed
Vast Deposits of Copper and Iron

## 40,000,000 Acres of the Finest Hardwoods on Earth

**We Raise** Hemp, Copra, Rubber, Tapioca, Sugar, Tobacco, Coffee, Maguey, and all other Products of Tropical Climes

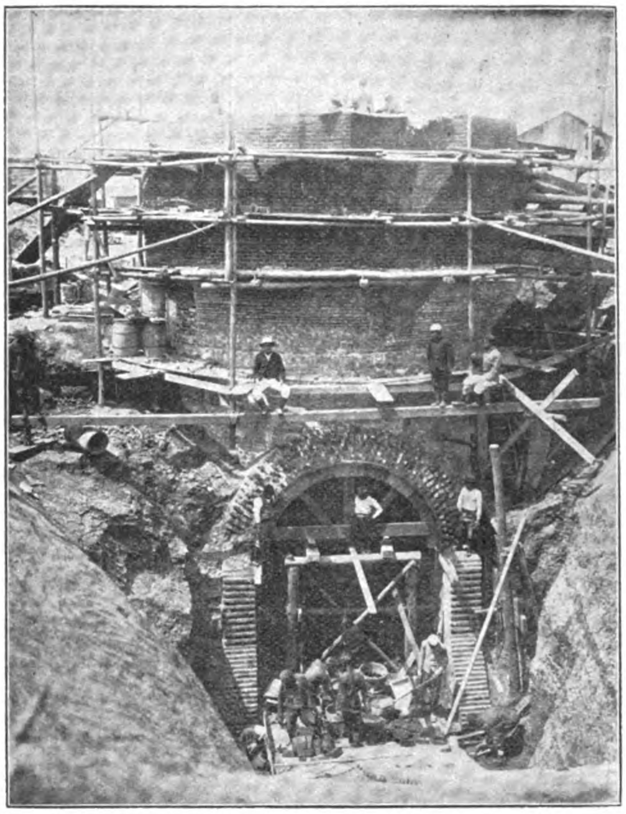
*No Other Land on Earth Offers a More Inviting Field for Capital*

## Write to the Publicity Committee

THE MANILA MERCHANTS' ASSOCIATION

FOR INFORMATION

# FUSHUN COAL



SINKING SHAFT AT OYAMA PIT, FUSHUN COLLIERY.

## The Best Steaming Coal in the Far East

### Output 3,000 tons per day

Fresh stocks always on hand at Dairen, Newchwang & Tientsin Depots and also at Chefoo, Shanghai, Hongkong, Singapore and Penang.

MINING DEPARTMENT,

## South Manchuria Railway Company

DAIREN

Tel. Add. "Mantetsu," Codes: A.B.C. 5th Ed, A I & Lieber's

Agents: MITSUI & COMPANY

TELEPHONE 1108.

TELEGRAPHIC ADDRESS: "HARDWARE, SHANGHAI."

HEATING, LIGHTING AND SANITARY ENGINEERS.

# GORDON & COMPANY

110 SZECHUEN ROAD, SHANGHAI

STEAM OR HOT WATER HEATING PLANTS

AGENTS FOR THE CARRON COMPANY OF FALKIRK, SCOTLAND

STOVES AND FIRE GRATES

MODERN BATH-ROOM LUXURIES

HOT AND COLD WATER AND SANITARY FITTINGS

OUTPORT WORK A SPECIALTY

# SAN MIGUEL BREWERY

MANILA, P. I.

*The Largest and Most Modern* *Brewery*

IN THE FAR EAST

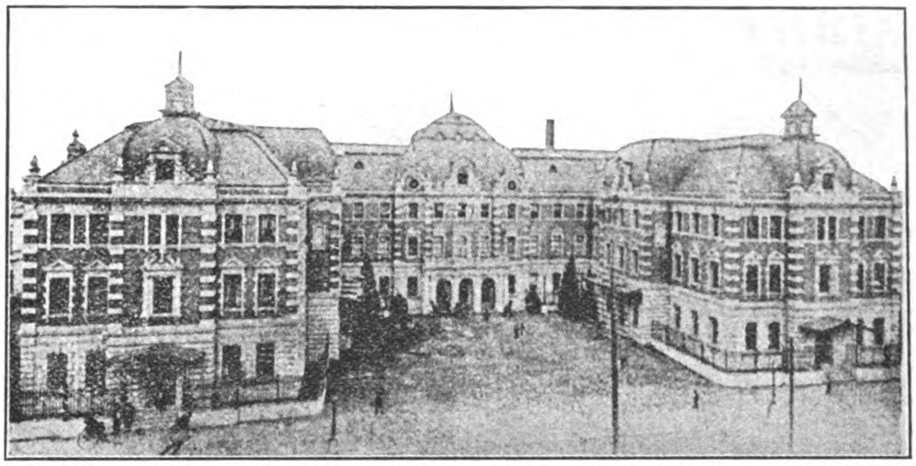
*Get into the Habit of Asking for* *San Miguel*

IT IS ABSOLUTELY PURE

Containing No Trace of Injurious Chemicals

General Telegraphic Address: "MITSUI"

A B C, 5th edition and A1 Codes used



THE MITSUI BUILDING, TOKIO,
Containing the offices of the Mitsui Family Council, The Mitsui Mining Co., The Mitsui Bank, and The Mitsui Bussan Kaisha

# THE MITSUI BUSSAN KAISHA

## (MITSUI & CO. IN EUROPE AND AMERICA)

## HEAD OFFICE: Surugacho, Tokio, Japan

**President:** HACHIROJIRO MITSUI, Esq.

**Directors:** SENJIRO WATANABE, Esq.; GIICHI IIDA, Esq.; SANKICHI KOMURO, Esq.; KENZO IWAHARA, Esq.; JOTARO YAMAMOTO, Esq.

**Home Branch Offices:** YOKOHAMA, MOJI, KUCHINOTSU, NAGOYA, WAKAMATSU, MIIKE, OSAKA, KARATSU, TAIPEH, KOBE, NAGASAKI.

**Branch Offices in Asia:** TIENTSIN, NEWCHWANG, SHANGHAI, BOMBAY, SINGAPORE.

**London Branch Office:** MITSUI & Co., Lime Street.

**New York Branch Office:** MITSUI & Co., 445 Broome Street.

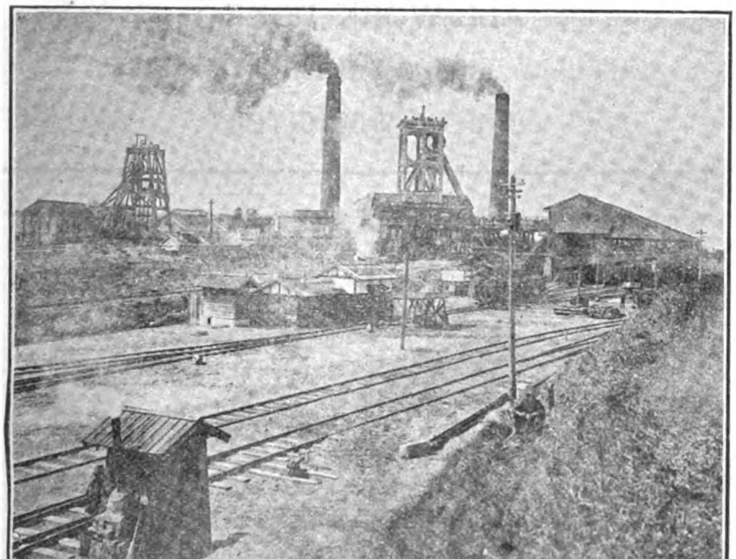
**Agents:** HAMBURG, CANTON, CALCUTTA, BANGKOK, FOOCHOW, HARBIN, SAN FRANCISCO, AMOY, DAIREN, TSINGTAU, SAIGON, SOURABAYA, HANKOW, SEOUL, ANTUNG, SYDNEY, MANILA, CHEFOO, CHEMULPO, RANGOON, VLADIVOSTOCK, ETC.

## IMPORT, EXPORT AND COMMISSION MERCHANTS

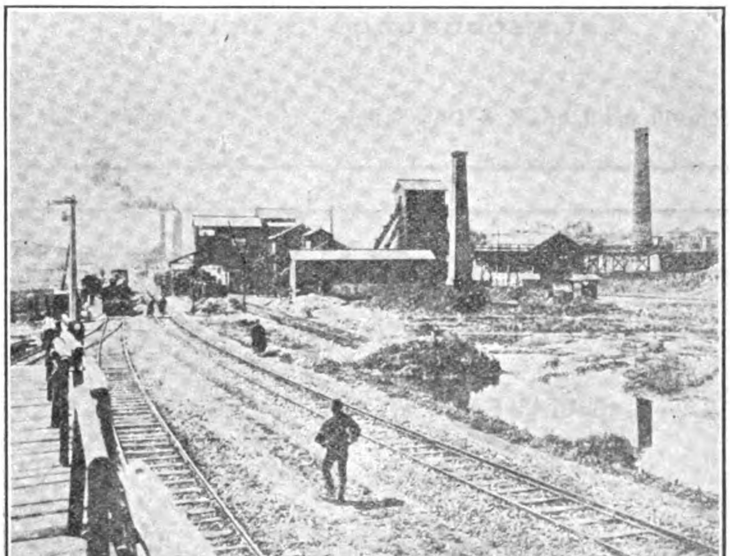
**CONTRACTORS OF COAL** to the Imperial Japanese Navy and Arsenals, the State Railways, Principal Railway Companies, Industrial Works, the United States Army Transport Service, and Home and Foreign Mail and Freight steamers.

**SOLE PROPRIETORS** of the famous Miike, Tagawa, Yamano and Ida Coal Mines, and Sole Agents for Hondo, Kanada, Kishima, Mameda, Mannoura, Ohnoura, Ohtsuji, Sasahara, Tohmiyama, Tsubakuro, Yoshio, Yunokibara, Takae, Fushun and other Coals.

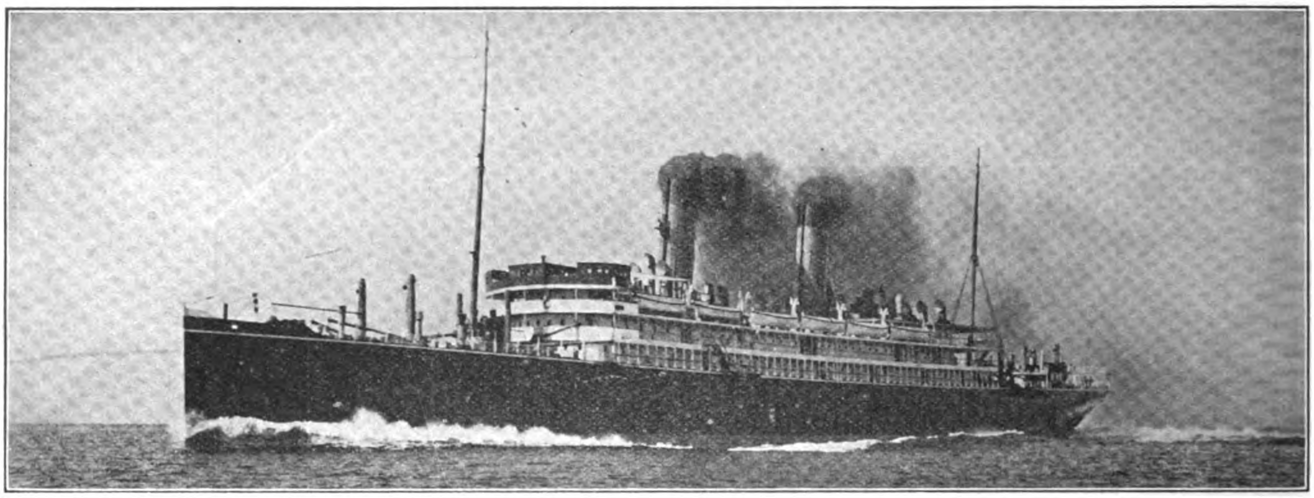
**IMPORTERS AND EXPORTERS** of Cotton, Cotton Yarn, Cotton Piece Goods. Book-binding Cloth, Copper, Silver, Tin, Lead and other Metals, Railway Materials, Acids, Camphor, Flour, Cereals, Manure, Opium, Isinglass, Mushrooms, Sugar, Wax, Vermicelli, Sulphur, Hemp, Beer, Cement, Cigarettes, Matches, Paper, Hides, Leather Belts, Teak and other Timbers, Machinery, etc.



MIYANOHARA PIT, MIIKE MINE



WASHING PLANT, MIIKE MINE



S. S. "CHIYO-MARU"

TRANS-PACIFIC TURBINE DRIVEN PASSENGER STEAMER "CHIYO-MARU" FOR T. K. K.—Built and engined by the Mitsu Bishi Dockyard and Engine Works, Nagasaki, November 1908.—Length (overall), 570 feet 0"; Breadth, moulded, 63 feet 0"; Depth (shelter deck), 46 feet 6"; Gross tonnage, 13,426 tons; Displacement, 18,725 tons; Engines, Parsons' Three Shaft Arrangement; Boilers, Single Ended Scotch Boilers (13); I. H. P., 19,591; Speed, 21 knots. (This photo was taken on her full speed trials the 13th October, 1908.)

# MITSU BISHI DOCKYARDS & ENGINE WORKS, NAGASAKI

| | DOCK NO. 1. | DOCK NO. 2. | DOCK NO. 3. |
|---|---|---|---|
| EXTREME LENGTH | 523 FT. | 371 FT. | 722 FT. |
| LENGTH ON BLOCKS | 513 " | 360 " | 714 " |
| WIDTH OF ENTRANCE ON TOP | 88 " | 66 " | 99½ " |
| " " " BOTTOM | 77 " | 53 " | 88½ " |
| WATER ON BLOCKS AT SPRING TIDE | 26½ " | 22 " | 34½ " |

## THE BEST EQUIPPED SHIPBUILDING PLANT IN THE FAR EAST,

WITH SPECIAL FACILITIES FOR HANDLING THE HEAVIEST CASTINGS AND THE REPAIRING OR BUILDING OF SHIPS, ENGINES AND BOILERS, ALSO ELECTRICAL WORK.

LARGE STOCK OF MATERIAL, AND FITTINGS ALWAYS ON HAND

THE POWERFUL SALVAGE STEAMER "OURA-MARU" (712 TONS, 700 I. H. P.) EQUIPPED WITH NECESSARY PUMPS AND GEAR, IS ALWAYS READY AT SHORT NOTICE.

## EASTERN ENGINEERING COMPANY

ARCHITECTS AND ENGINEERS

Special attention paid to Reinforced Concrete Designing : : : : : :

**Correspondence Solicited**

Rooms 10 and 11 LACK & DAVIS Bldg. Manila, P. I.

## THE WEN MING PRESS

88 HONAN ROAD, SHANGHAI

HIGH GRADE HALF TONES, ZINC ETCHINGS, ETC.

TYPE FOUNDRY, PRINTERS AND LITHOGRAPHERS

ALL WORK DONE

SKILFULLY AND AT MODERATE PRICES.

ORDERS SOLICITED

## HOTELS

WHERE TO LIVE AT MANDALAY

UPPER BURMA

SALWEEN HOUSE

AND

TENASSERIM HOUSE

Entire satisfaction guaranteed, as the numerous testimonials from both residents and tourists testify.

TELEGRAPHIC ADDRESS: "SALWEEN"

P. O. Box 194

## C. S. NICHOLSON

GENERAL BROKER

9 P. MORAGA. MANILA, P. I.

# THE KAWASAKI DOCKYARD CO., LTD.

## DAIREN

Cable Address: "DOCK," Dairen
Codes: AI and A. B. C. 5th Ed.

**PAID UP CAPITAL: -Y-10,000,000**

THE DAIREN BRANCH has a DRY DOCK and fully equipped MACHINE and TOOL SHOPS, an IRON & BRASS FOUNDRY and other Auxiliary Works. It undertakes general CASTING WORK and the construction and repair of all kinds of VESSELS, BOILERS, ENGINES and other MACHINERY.

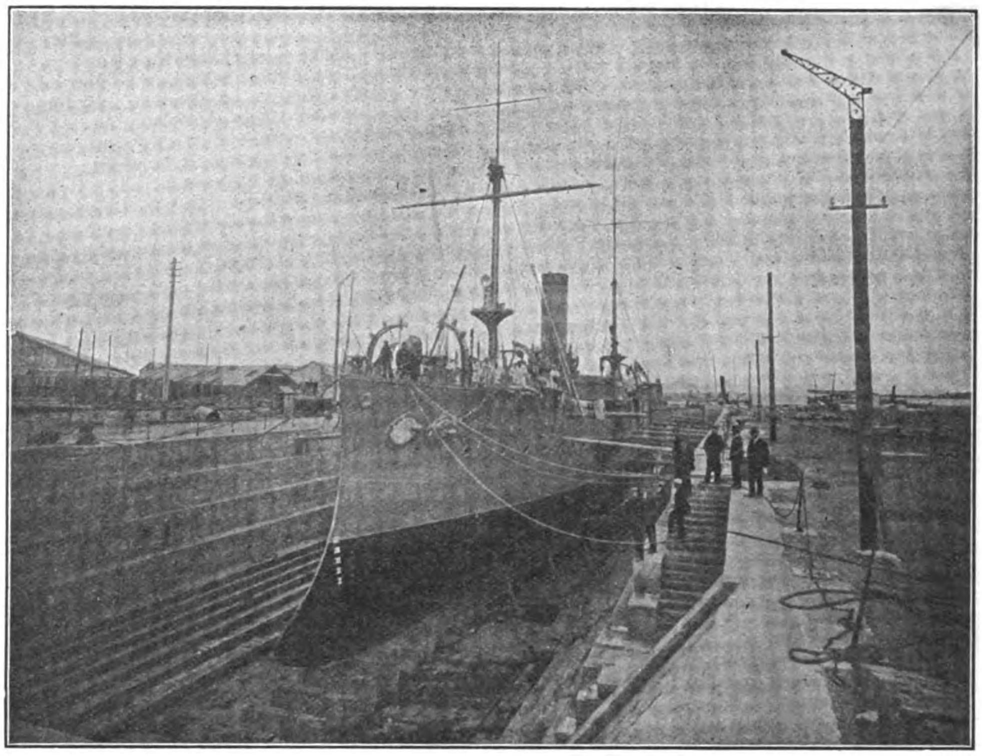
Powerful Salvage & Towing Boats will be supplied at Shortest Notice.

All work guaranteed to be of the highest order and to be of the most up-to-date improvements. All orders immediately attended to.

**DOCK**

| | |
|---|---|
| Length | 380 ft. |
| Width | 50 ft. |
| Depth over Sill | 20 ft. |

**DOCKING CHARGES VERY MODERATE**



GRANITE DRY DOCK, DAIREN

# MANUEL EARNSHAW & CO., LTD.

## MARINE ENGINEERS

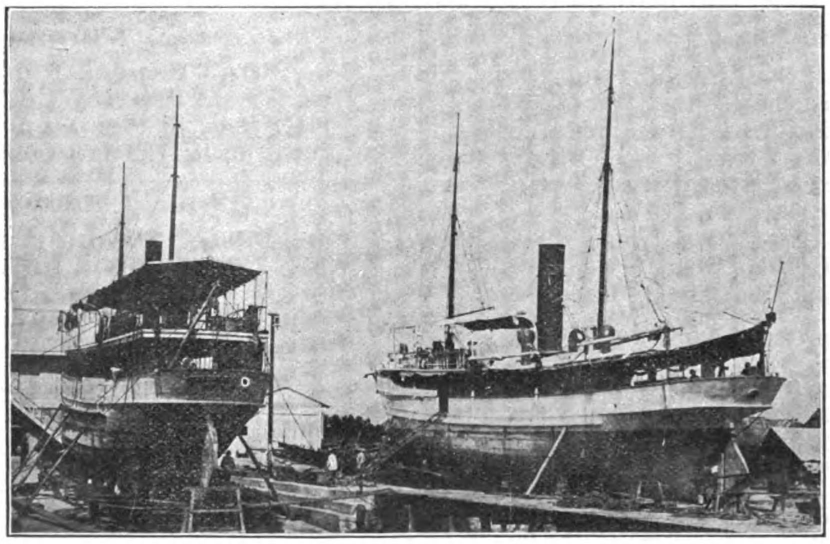
15 BARCELONA ST., MANILA

REPAIRS TO SHIPS,
BOILERS,
ENGINES, ETC.

P. O. BOX NO. 282

TELEPHONE 213

FOUNDRY AT
151 REINA REGENTE



MARINE SLIPWAY

LAUNCH BUILDERS,
FOUNDERS IN IRON,
BRASS, ETC.

Telegraphic Address:
"MEARNSHAW" MANILA

Codes:
A. B. C., 5th Edition
Engineering Telegraph Code
and Supplement; Western Union

SLIPWAY AT
CAVITE

# KIANGNAN DOCK AND ENGINEERING WORKS

**CONTRACTORS FOR REPAIRING, DOCKING AND REFITTING THE VESSELS OF THE IMPERIAL CHINESE NAVY AND THE IMPERIAL MARITIME CUSTOMS**

**Directors:**

**ADMIRAL SAH**
IMPERIAL CHINESE NAVY

**KWONG KWOH WAH**
TAOTAI

**Manager:**

**R. B. MAUCHAN**

Yangtsze River Pirate Chaser, Built by the Kiangnan Dock & Engineering Works for the Viceroy of Nanking

**Cable Address:**

**"SINODOCK"**

**Codes:**

**A. B. C. 5TH EDITION, ENGINEERING, LIEBER'S, STANDARD**

**KIANGNAN DOCK** Length over all, 385'; length on blocks, 375'; water on sill, 19'; dock entrance, top, 70', bottom, 60'.

The dock accommodates the largest coasting steamers and is equipped with complete modern facilities for handling work thoroughly and promptly.

The new machine and boiler shops, and the foundry and shipbuilding plant are equal to any this side of Suez.

Patent slipway for small steamers and launches. Complete boat and launch building shops.



# Warner, Barnes & Co., Ltd.

## Manila, London, New York, Iloilo, Cebu, Albay, Samar, Leyte

## General Merchants, Insurance and Shipping Agents Importers and Exporters

**Steamship Agencies:**

Nippon Yusen Kaisha
Regular lines to Australia, Manila, Japan, Europe and America.
China & Manila S. S. Co., Ltd.
International Sleeping Car Co.
Trans-Siberian Railway
White Star Line
Bibby Line
American Asiatic S. S. Co.

**Express Companies:**

China Express Company
Geo. W. Wheatley Co.'s Express
United States Express Co.
Neale & Wilkinson Express Co.

**General Managers**

The Pasig Steamer & Lighter Company Limited
The Pasay Estate Ltd.

**Insurance Agencies:**

Royal Exchange Assurance Corporation
Law Union & Rock Insurance Co., Ltd.
State Assurance Co., Ltd.
China Fire Insurance Co., Ltd.
Maritime Insurance Co., Ltd.
Western Assurance Co.
Yangtse Insurance Association Ltd.
Tokio Marine Insurance Co., Ltd.

Telegraphic Address:—WARNER
P. O. Box 294
Tel. Nos. 228—104—610—182

No. 7 Carenero
MANILA, P. I.

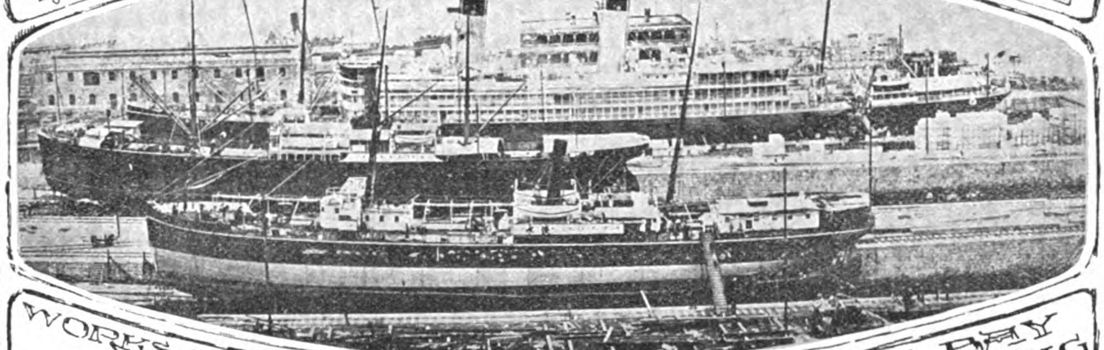
# TAIKOO DOCKYARD & ENGINEERING Co. OF HONGKONG LTD

**Engineers, Boilermakers, Repairers**

WORKS COVER AN AREA OF 53 ACRES

DRY DOCK 787 FT. × 88 FT. DEPTH 34½ FT.

SLIPWAYS
NO. 1 1030 FT.
NO. 2 993½ FT.
NO. 3 993½ FT.



WORKS & GENERAL OFFICES QUARRY BAY HONGKONG

Telegrams Temseloaf London Taikoodock Hongkong

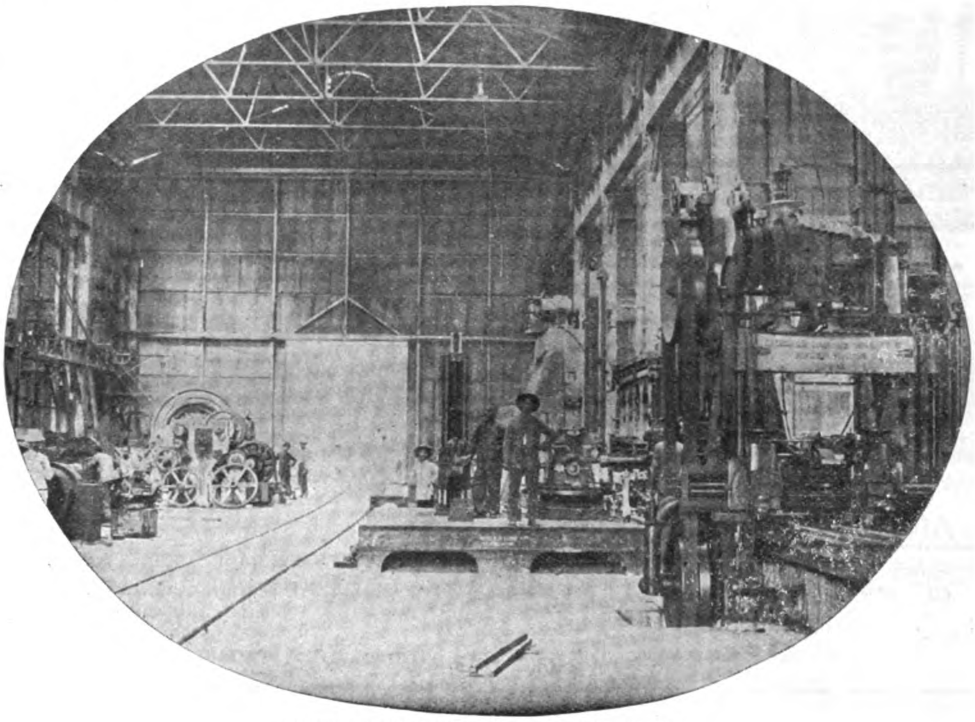
**Builders** OF PASSENGER AND CARGO STEAMERS, TURBINE STEAMERS, STEAM YACHTS, ALL TYPES OF WAR VESSELS STEAM LAUNCHES MOTOR BOATS TUGS AND LIGHTERS

A SECTION OF THE YARD SHEWING TURBINE STEAMSHIP "CHIYO MARU" 13,600 TONS IN DRY-DOCK, TWO COASTING STEAMERS ON SLIPWAYS, AND VESSEL LYING ALONGSIDE THE SEAWALL

## THE BUILDING YARD IS LAID OUT WITH FURNACES AND PLANT SUITABLE FOR BUILDING VESSELS UP TO 20,000 TONS

GENERAL MANAGERS
**John Swire & Sons**
8 BILLITER SQUARE, LONDON

AGENTS IN HONGKONG, CHINA AND JAPAN
**Butterfield & Swire**



VIEW OF PORTION OF MACHINE SHOPS

THE POWER FOR THE ESTABLISHMENT is generated by Gas Producers, on the Mond System, supplying 4 Cockerill Gas Engines of 3,000 collective horse power, driving Electrical Generators, and is transmitted throughout the Works by means of Electrical Motors.

AN ELECTRIC DERRICK CRANE capable of lifting weights up to 100 tons, is erected on the Sea Wall, and 14 Electric Overhead Travelling Cranes ranging from 5 tons to 100 tons, are fitted throughout the Workshops.

AGENTS IN MANILA AND PHILIPPINE ISLANDS

**CASTLE BROS.-WOLF & SONS**

THE DOCK PUMPS consist of 2 sets of Centrifugal, Electrically driven, pumps, together capable of emptying the Dock with 35 feet of water on the Sill in 2¾ hours.

THE MACHINERY in the Engine Works is laid out for dealing with the heaviest classes of Engines.

THE SLIPWAY CARRIAGES are of the latest pattern by Morton of Leith, and the Winding Gear consists of large electrically driven winches operating massive wire cables.

TENDERS SUBMITTED AND ESTIMATES GIVEN FOR BUILDING AND REPAIRING ALL CLASSES OF VESSELS; ALSO FOR EVERY DESCRIPTION OF ENGINE AND BOILER, MECHANICAL, ELECTRICAL AND CONSTRUCTIONAL WORK

# HONGKONG & WHAMPOA DOCK CO., LTD.

Telegraphic Address: **Manifesto Hongkong**
Dock Owners, Ship Builders, Marine and Land Engineers, Boiler Makers, Iron and Brass Founders, Forge Masters, Electricians.

## HONGKONG

All classes of CONSTRUCTIONAL and GENERAL ENGINEERING WORK undertaken, also LOCOMOTIVES, RAILWAY ROLLINGSTOCK and PLANT, BRIDGES, etc.

COAST and RIVER STEAMERS, TUG BOATS and LAUNCHES, SHALLOW DRAFT VESSELS and STERN WHEEL STEAMERS

AUXILIARY MACHINERY for MARINE and LAND Purposes.

LAND and MARINE BOILERS of all sizes and classes.

GALVANIZING by the Electrical process.

IRON and BRASS CASTINGS of all descriptions.

FORGINGS in IRON and STEEL for SHIPS, ENGINES, and LAND WORK, large and small.

We make a specialty of HIGH SPEED MOTOR BOATS for PASSENGER and CARGO Traffic.

ALL CLASSES of COCKS, VALVES and FITTINGS in IRON and BRASS supplied.

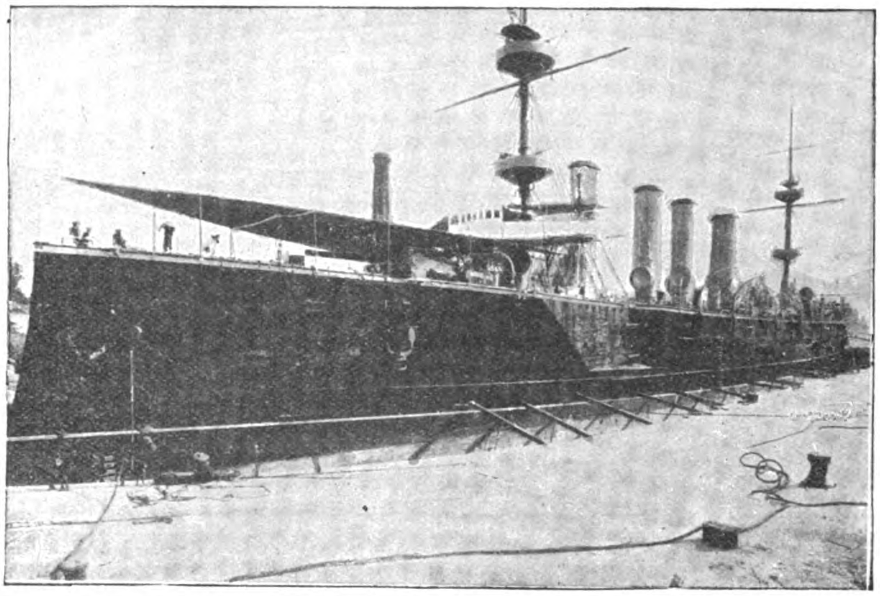
BOLTS, NUTS and RIVETS MANUFACTURED at SHORT NOTICE.

FINISHED NUTS in BRASS and IRON.

A LARGE STOCK of STEEL and IRON PLATES, BARS and ANGLES, always in hand.

The Company possesses SIX GRANITE DOCKS and TWO PATENT SLIPWAYS and these are equipped for EXPEDITIOUS WORK. Our plant is of the most modern type throughout.

Ship Owners and Captains are assured that DOCKING and REPAIRS are carried out PROMPTLY and at MODERATE CHARGES.



H. M. S POWERFUL IN NO. 1 DOCK, KOWLOON.

The Dimensions of Docks and Slips are as follows:—

| Name of Dock or Slip | Length on Keel Blocks | Entrance Breadth | Depth Over Sill at Ordinary Spring Tides | Rise of Tide | |
|---|---|---|---|---|---|
| | | | | Springs | Neaps |
| **KOWLOON** | Feet | Feet | Feet | Feet | Feet |
| No. 1 Dock, Kowloon | 700 | 86 ft top / 70 ft. bottom | 30′ | 7′ 6″ | 3 |
| No. 2 Dock, Kowloon | 371 | 74′ | 18′ 6″ | 7′ 6″ | — |
| No. 3 Dock, Kowloon | 264 | 49′ 3″ | 14′ | 7′ 6″ | — |
| Patent Slip, No. 1, Kowloon | 240 | 60′ | 14′ | 7′ 6″ | — |
| Patent Slip, No 2, Kowloon | 220 | 60′ | 12′ | 7′ 6″ | — |
| **TAI-KOK-TSUI** | | | | | |
| Cosmopolitan Dock | 466 | 85′ 6″ | 20′ | 7′ 6′ | — |
| **ABERDEEN** | | | | | |
| Hope Dock | 430 | 84′ | 23′ | 7′ 6″ | — |
| Lamont Dock | 333 | 64′ | 16′ | 7′ 6″ | — |

Please Address Enquiries to the Chief Manager, R. M. DYER, B. Sc., M. I. N. A., Kowloon Dock, Hongkong

Telephone No. 13 K. Head Office, Kowloon.

Town Office, Queen's Buildings Telephone No. 20, Hongkong

## FINDLAY & CO.

### AGENTS, MANILA, P. I.

# W. F. STEVENSON & CO., LTD.

ILOILO MANILA CEBU

MERCHANTS

## STEAMSHIP AGENCIES

PENINSULAR AND ORIENTAL STEAM NAVIGATION CO., OSAKA SHOSEN KAISHA (IN CONNECTION WITH THE CHICAGO MILWAUKEE & ST. PAUL AND THE CHICAGO MILWAUKEE AND PUGET SOUND RAILWAYS), "BEN" LINE OF STEAMERS, "INDRA" LINE OF STEAMERS.

## INSURANCE AGENCIES

LIFE, STANDARD LIFE ASSURANCE CO.—FIRE, NORWICH UNION FIRE INSURANCE SOCIETY LTD., SCOTTISH UNION & NATIONAL INSURANCE CO., YORKSHIRE INSURANCE CO., LTD.—MARINE, MARINE INSURANCE CO. LTD., STANDARD MARINE INSURANCE CO. LTD.

4 MUELLE DEL REY, MANILA, P. I.

# Johnson-Pickett Rope Co.

PURE MANILA ROPE

MADE WITH LATEST IMPROVED ROPE MACHINERY

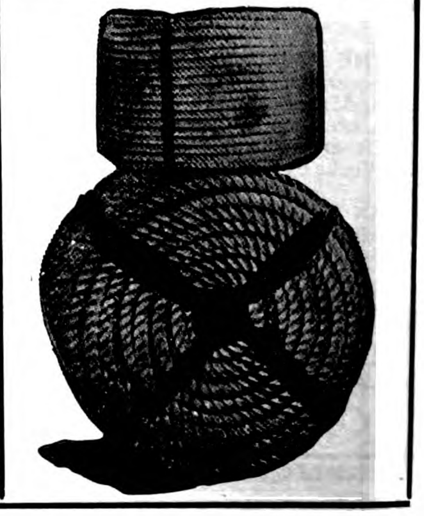
Average Breaking Load After Three Tests:

| | |
|---|---|
| 2 Inch Rope Circumference | 4,037 Pounds |
| 3½ " " " | 16,670 " |
| 5 " " " | 23,728 " |

Factory and Salesroom.
Cor. Vives and Lara, Murallon,
San Nicolas, Manila, P. I.

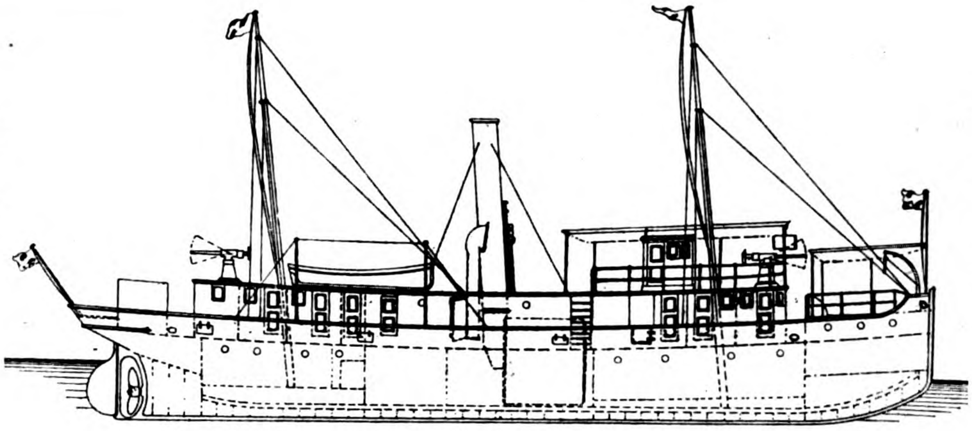
TELEPHONE
1123

Cable Address: SANTAROPE
Code: Western Union, Universal Edition.



CORRESPONDENCE SOLICITED

ENGINEERS, MACHINISTS and FOUNDERS



SHIPBUILDERS, BOILERMAKERS ELECTRICIANS

I. C. M.'S GUNBOAT "KAI-HAI" BUILT BY THE NEW ENGINEERING AND SHIPBUILDING WORKS, LTD. SHANGHAI, FOR SERVICE IN NORTH CHINA: SPEED, 11 KNOTS

COAST AND RIVER STEAMERS, TUGBOATS, LAUNCHES, LIGHTERS, PONTOONS, SHALLOW DRAFT SIDE OR STERN WHEEL STEAMERS. ENQUIRIES SOLICITED. PLANS, SPECIFICATIONS AND ESTIMATES FURNISHED. ALL CLASSES OF ENGINEERING WORK UNDERTAKEN

# THE NEW ENGINEERING AND SHIPBUILDING WORKS, LTD.

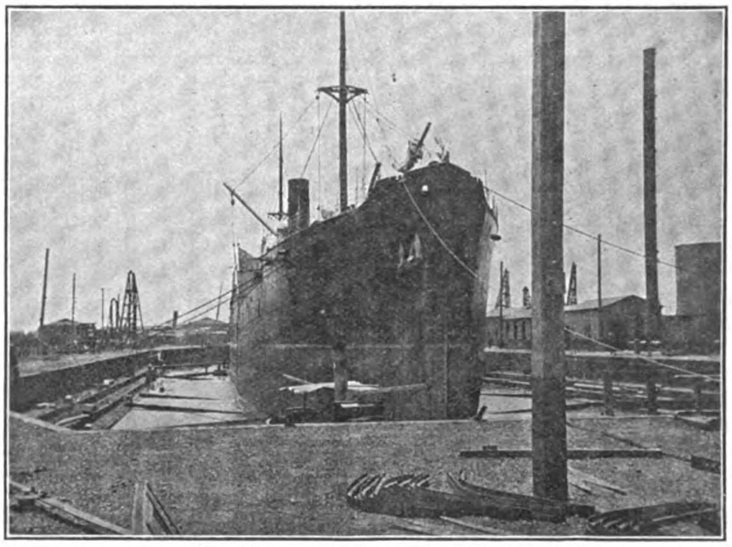
## SHANGHAI

PROPRIETORS OF THE

## YANGTSZEPOO DOCK

THE DOCK, WORKS AND OFFICE ARE LOCATED ON THE SHANGHAI SIDE OF THE RIVER, 15 MINUTES BY ELECTRIC TRAM FROM HEART OF THE CITY

THE WORKS ARE EQUIPPED WITH THE MOST MODERN MACHINERY, CAPABLE OF HANDLING THE LARGEST MARINE ENGINEERING WORK



VIEW OF YANGTSZEPOO DOCK

PARTICULARS OF DOCK
LENGTH ON BLOCKS 455′0″
" OVERALL - 469′0″
WIDTH, ENTRANCE 74′0″
" SILL - - 64′0″
DEPTH ON SILL, (H. W. O. S. TIDES) - - - 21′0″
DEPTH ON 3′0″ BLOCKS (H. W. O. S. TIDES) 19′0″
PUMPS CAN EMPTY DOCK WITHOUT VESSEL IN, IN 3½ HOURS.
WORKSHOPS LOCATED AT HEAD OF DOCK

OFFICE, DOCK & WORKS, 37 YANGTSZEPOO ROAD, SHANGHAI

TELEGRAPHIC ADDRESS: "SPEEDY." CODE: A.B.C., 5TH EDITION TELEPHONE 703. MANILA AGENT, F. L. STRONG

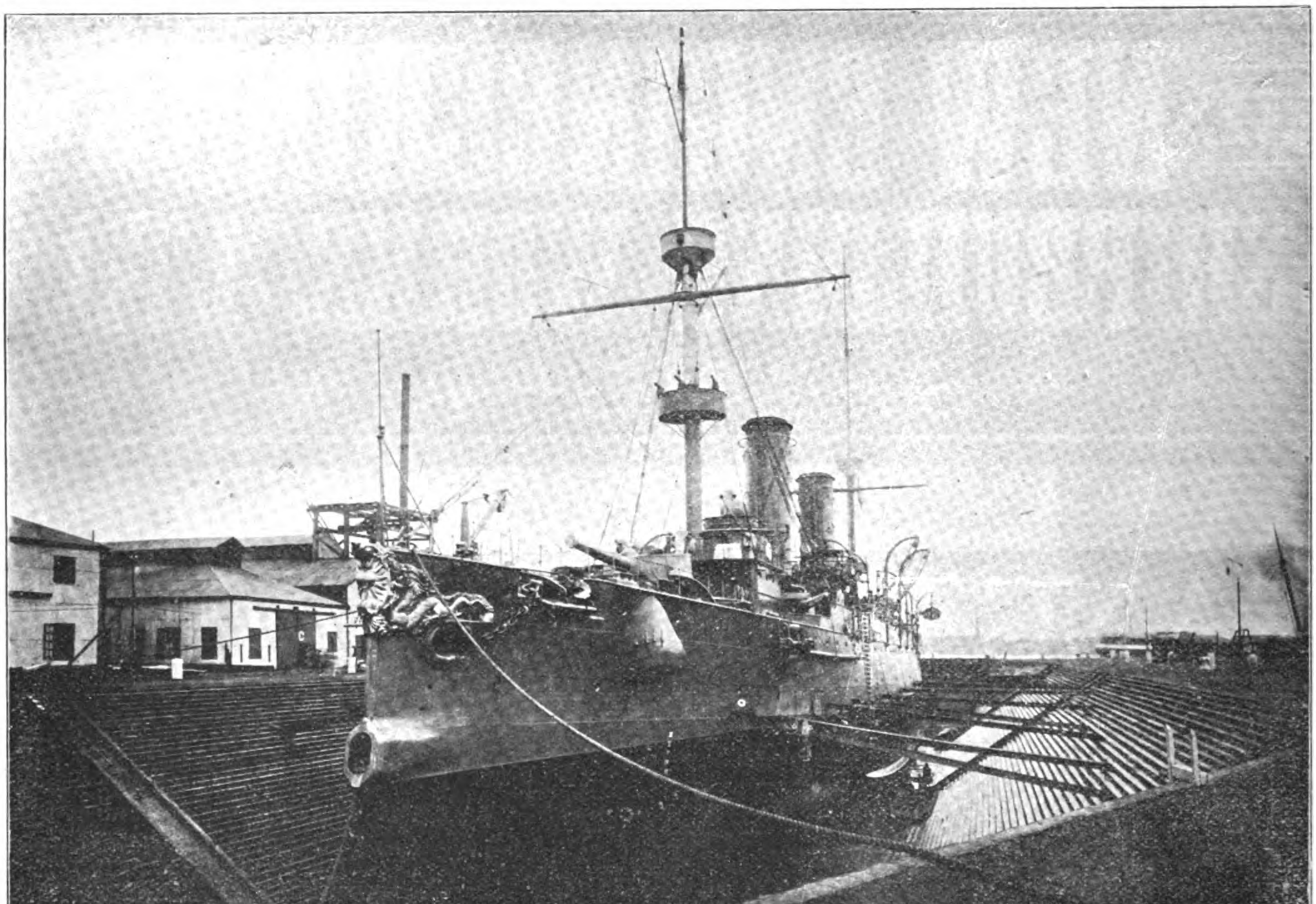
# THE SHANGHAI DOCK AND ENGINEERING CO., LTD.

DOCK OWNERS — ENGINEERS — SHIP BUILDERS — FOUNDERS

SHANGHAI
CHINA

Cable Address:
"FARNHAM," SHANGHAI

Codes Used:
A 1., A B C (4th & 5th Editions)
Watkin's, Scott's, Western
Union and Engineering



The HAI-CHI in the "OLD DOCK" of the Shanghai Dock & Engineering Co., Ltd.

The Docks are five in number, ranging in length from 360 feet to 560 feet, and breadth of entrance from 57 feet to 82 feet, with the depth of water on the sill from 16 feet to 24 feet.

The Dock charges are very moderate.

The Water Frontage is about 1½ miles in length. Wharves and Pontoons are arranged where steamers can moor during repairs; and slips for hauling up small vessels are provided. Sheer legs capable of lifting 65 tons are placed at the various Docks.

The extensive Shipbuilding yards and workshops are provided with the latest improvements in tools, traveling cranes of 70 tons' capacity, hydraulic and pneumatic machinery.

Lit up by Electric light with railway lines through workshops and yards.

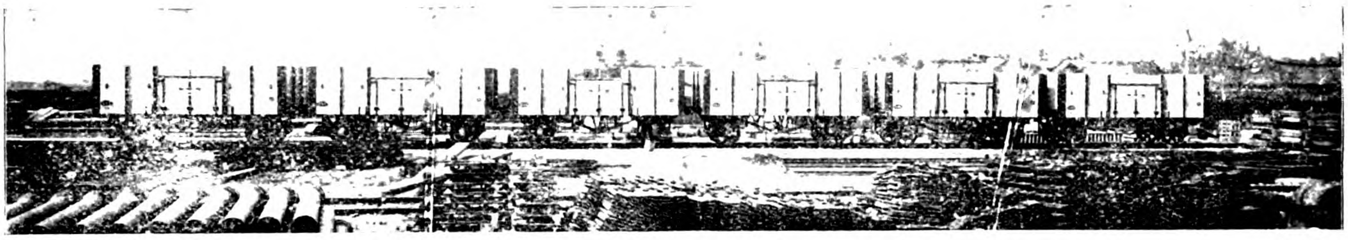
Powerful salvage appliances can be supplied at short notice. Enquiries immediately attended to.

Estimates given for all classes of work; Coast Steamers, Side and Stern-Wheelers, Tugboats, Launches, Steam Barges, Dredgers, Floating Cranes, and Lighters a speciality.

Every description of repairs and renewal work undertaken and expeditiously executed.

Land and Marine Engines and Boilers, Centrifugal, Mining, and other pumping machinery always in stock or in progress, also power driven Machine Tools, Engineer's Hand Tools, Steam, Gas, Oil, and Electric machinery and engineering accessories generally.

## CORRESPONDENCE INVITED



TYPE OF HIGH SIDE GOODS WAGONS

CONSTRUCTED BY THE VULCAN IRONWORKS, LTD., FOR THE NANKING CITY RAILWAY

# Railway Coaches and Goods Wagons Assembled
# Structural Steel Work Erected

ESTIMATES given for every description of Engineering and Constructional work and repairs, including supplying and installing of HOT WATER and STEAM HEATING in all its branches and HOT and COLD WATER SUPPLIES.

THE WORKS are electrically driven, and are equipped throughout with up-to-date machinery and labour saving devices, including an HYDRAULIC PLANT, and appliances to undertake constructing or repairing SHIPS, ENGINES, BOILERS, etc.

EXPERIENCED EUROPEAN STAFF SUPERVISES ALL BRANCHES OF WORK

# VULCAN IRONWORKS, Ltd.

**ENGINEERS, SHIPBUILDERS, BOILERMAKERS, ELECTRICIANS, IRON AND BRASS FOUNDERS, ETC.**

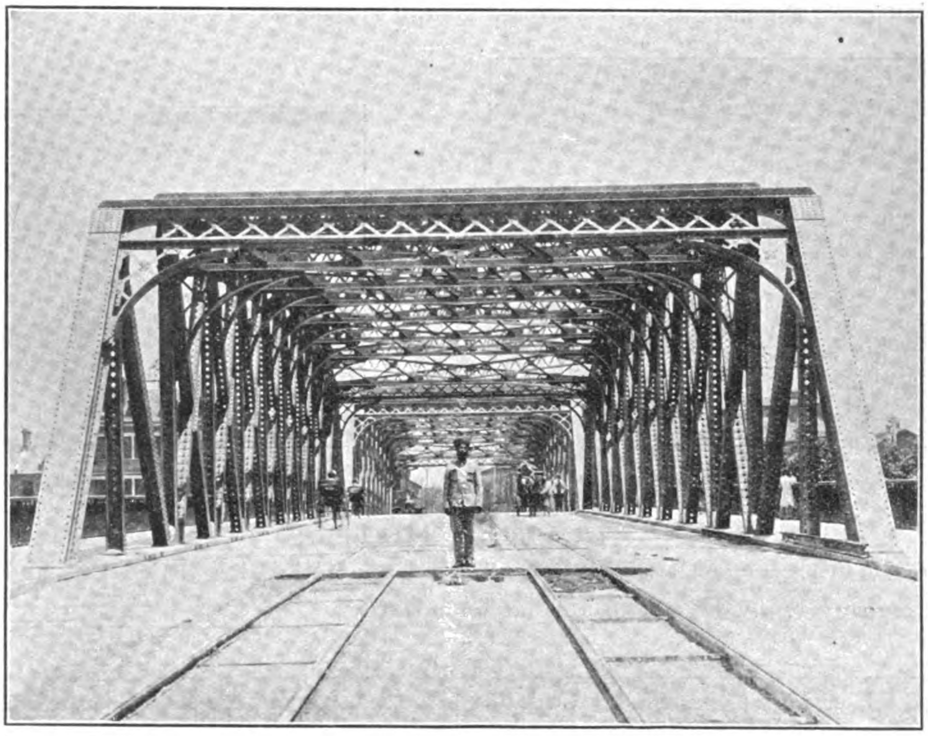
Office and Works: 45 YANGTSZEPOO ROAD, SHANGHAI

# PATTON'S IRONHIDE PAINT

A PROTECTIVE COATING FOR IRON AND STEEL

PREVENTS CORROSION CAUSED BY DAMPNESS, SULPHUROUS FUMES AND OTHER DELETERIOUS GASES

**Tough Elastic Durable**



THE RUSTLESS COATING FOR

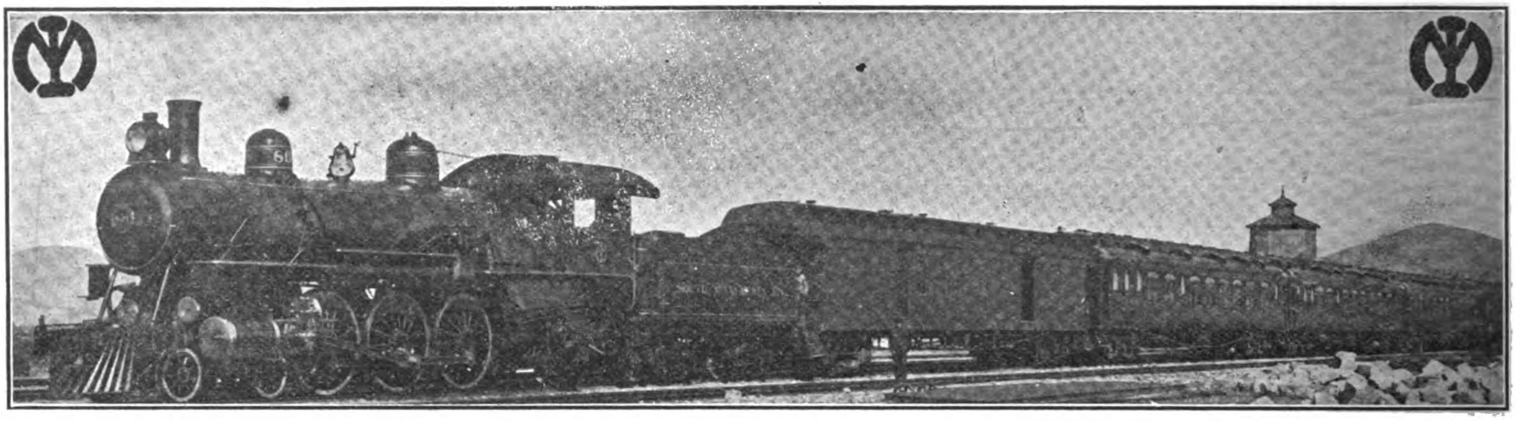
STRUCTURAL IRON WORK, STEEL CARS, TRAIN SHEDS, IRON PARTS OF ROLLING STOCK

BRAKE RODS, TRUSS RODS, TRUCKS, AND BRIDGES, SUBJECTED TO SEVERE VIBRATORY STRAINS, SHOULD ALWAYS BE COATED WITH PATTON'S

"IRONHIDE"

**FEARON, DANIEL & CO.** Sole Agents for CHINA, HONGKONG, JAPAN AND PHILIPPINES

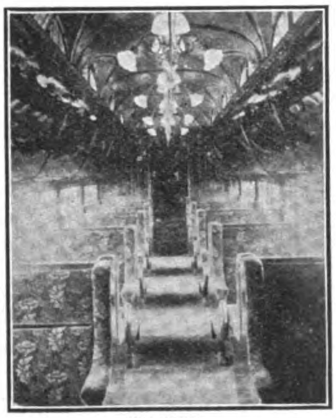
SHANGHAI, NO. 9 FOOCHOW ROAD



# South Manchuria Railway

| From Dairen | | 1st Cl. Fare. | Approximate Time Required |
|---|---|---|---|
| To Changchun | | Y 24 45 | 17 hours |
| ,, Harbin | | ,, 44 53 | 25 ,, |
| ,, St. Pet'burg (Via Viatka) | | ,, 339.53 | 10 Days. |
| ,, Berlin | * | ,, 389.25 | 11 ,, |
| ,, Paris | * | ,, 436 87 | 12 ,, |
| ,, London | * | ,, 442.27 | 12½ ,, |

**SHORTEST, QUICKEST AND CHEAPEST ROUTE BETWEEN THE FAR EAST AND EUROPE VIA DAIREN**



SLEEPER

## 4 TIMES WEEKLY EXPRESS TRAINS

Composed of excellently equipped SLEEPING, DINING and 1st CLASS CARS, are operated between DAIREN & CHANGCHUN in connection with the TRANS-SIBERIAN ROUTE and SHANGHAI MAIL STEAMERS.

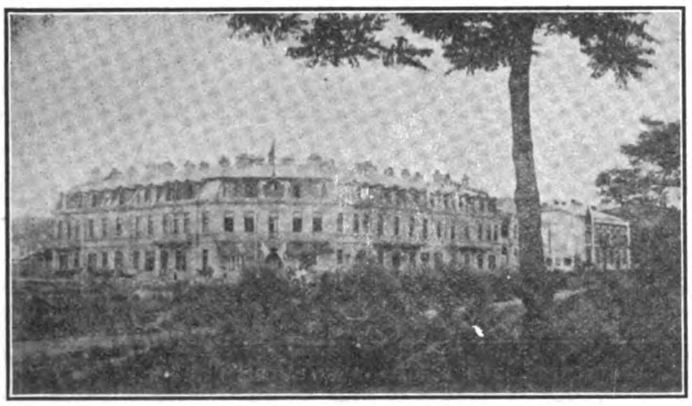
## CONNECTIONS AT MUKDEN

These Express Trains connect at MUKDEN with the PEKING-MUKDEN RAILWAY running via TIENTSIN and connect also with the MUKDEN-ANTUNG LINE traversing a most picturesque country and connecting with the KOREAN RAILWAY.

INTERIOR PULLMAN DAY COACH

## OTHER STEAMER CONNECTIONS AT DAIREN

Regular Steamship Services run from DAIREN to MOJI, KOBE, CHEMULPO, CHEFOO, TSINGTAO and other ports in Japan, China & Chosen (Korea)



SOUTH MANCHURIA RAILWAY, YAMATO HOTEL, PORT ARTHUR

YAMATO HOTEL, DALNY

## RAILWAY HOTELS

YAMATO HOTEL at DAIREN, PORT ARTHUR, MUKDEN, FUSHUN and CHANGCHUN all managed by the Company, provide comfortable accommodation.

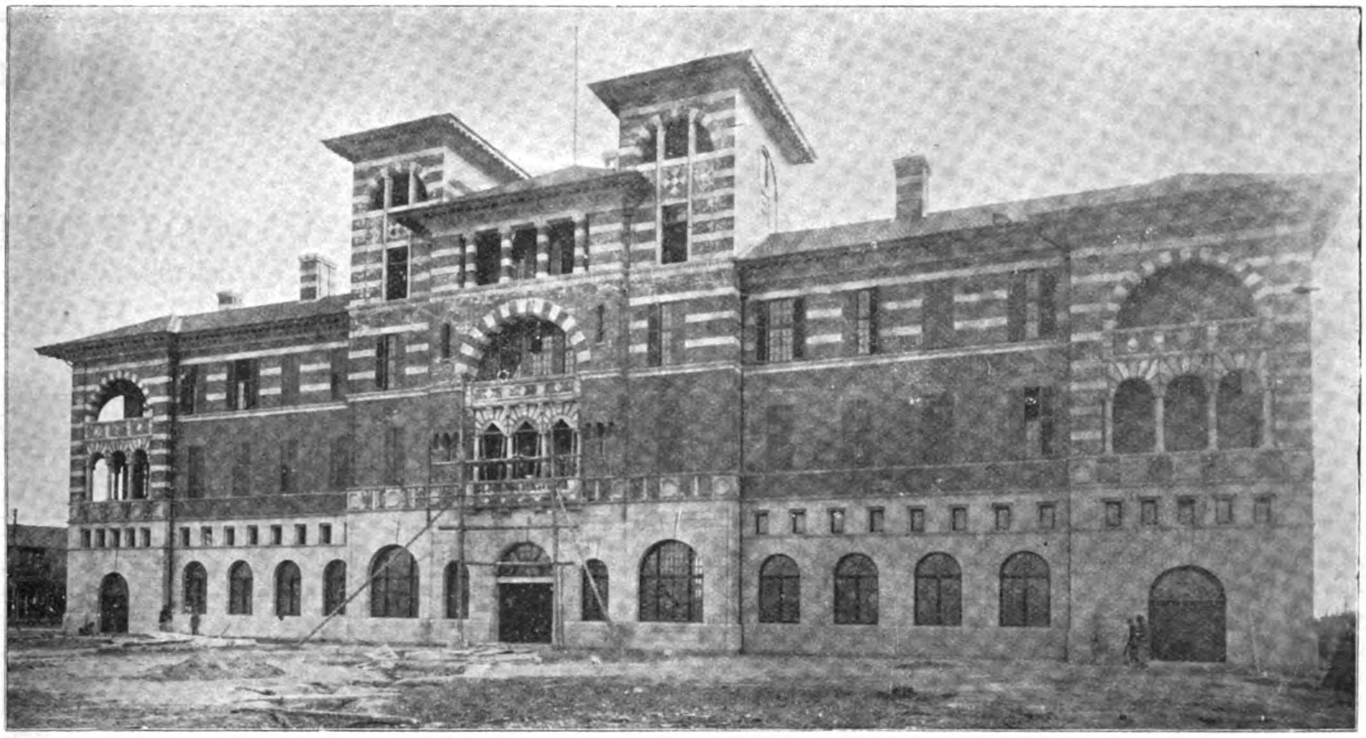
# SOUTH MANCHURIA RAILWAY COMPANY

## Dairen, Manchuria

**Tel. Add.: "MANTETSU" -:- Codes: A. B. C., 5th Ed., A1 and Lieber's**

* These fares do not include Sleeping Car Supplement beyond Moscow.

# *The Line of a Hundred Pagodas*



NEW STATION AND ADMINISTRATION BUILDING AT SHANGHAI

PASSENGERS TO THE YANGTSZE RIVER PORTS SHOULD TAKE THE STEAMER AT NANKING, THUS ENJOYING A TRIP THROUGH THE INTERESTING LAND OF PAGODAS AND "THE GARDEN OF CHINA." NANKING, THE SOUTHERN CAPITAL OF CHINA, WITH ITS MANY INTERESTING SIGHTS, THE CELEBRATED MING TOMBS, AND OTHER ATTRACTIONS, CAN BE SEEN IN TWO DAYS' TRIP FROM SHANGHAI. THE FIRST AND SECOND CLASS COACHES OF THE S-N. RAILWAY COMPARE WITH THE BEST IN EUROPE OR AMERICA FOR COMFORT AND SERVICE. TWO EXPRESS TRAINS DAILY.

# CHINESE EASTERN RAILWAY

## STEAMER & EXPRESS SERVICE

FAR EAST EUROPE

**TICKET OFFICES**

**SHANGHAI**
8 KIUKIANG ROAD

**PEKING**
AMBASSADOR'S STREET

**NAGASAKI**
THE BUND

**VLADIVOSTOK**
ALEUTSKAIA, No. 37

**HEAD OFFICES AT HARBIN**

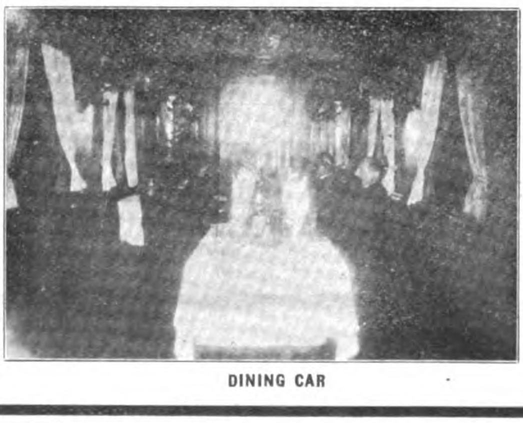
## STEAMER AND TRAIN TIME TABLE

| STEAMERS | | Free Time Between the Arrival of Steamer and Departure of Train | TRAINS | | | |
|---|---|---|---|---|---|---|
| DEPARTURE | ARRIVAL AT VLADIVOSTOCK | | DEPARTURE FROM VLADIVOSTOK | ARRIVE IRKUTSK | ARRIVE MOSCOW | ST. PETERSBURG |
| | | | (Harbin Time) | (St. Petersburg Time) | | |
| SHANGHAI Saturday*.......... | Thursday, 9.00 .................... | 31.25 hours | Friday, 4.25...... | Tuesday, 1.29... | ........................ | Monday, 6.00 |
| NAGASAKI Monday, 6.00...... | do do .................... | 31.25 " | Friday, 4.25...... | Tuesday, 1.29... | ........................ | Monday, 6.00 |
| TSURUGA Saturday 5.00 | Monday 11.00 .............. | 29.25 " | Tuesday 4.25.. | Saturday, 1.29.. | Friday, 7.06...... | .................... |
| TSURUGA Thursday 5.00 | Saturday 11.00 .............. | 29.25 " | Sunday 4.25.. | Thursday, 1.29.. | Wed., 7.05...... | .................... |

The hours of departure depend upon the tide. The express trains of the Chinese Eastern Ry. Co. leave Vladivostock on Fridays and Sundays. The express leaving on Fridays connect at Irkutsk with the express State trains running between Irkutsk and St. Petersburg via Vologda-Viatka. The Chinese Ry. Co.'s expresses consist of luggage car, restaurant car, two second and one first class cars, and are provided with a 1st class kitchen and servants speaking English and French.

### THE COMFORTS OF THE CHINESE EASTERN EXPRESS

SLEEPING ROOM



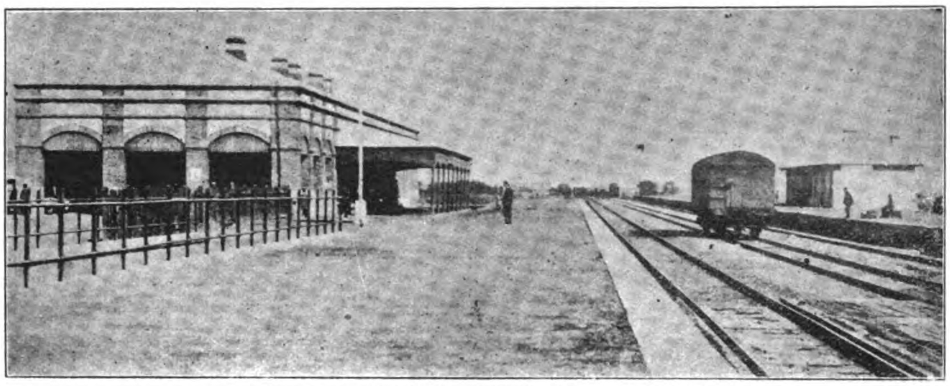
DINING CAR

BATH ROOM

# IMPERIAL RAILWAYS OF NORTH CHINA

PEKING TERMINAL STATION.

THROUGH SERVICE FROM PEKING TO MUKDEN, CONNECTING AT MUKDEN WITH THE SOUTH MANCHURIA EXPRESS FROM TRANS-SIBERIAN ROUTE: AT PEKING CONNECTION IS MADE WITH THE IMPERIAL PEKING-HANKOW RAILWAY FOR HANKOW AND YANGTSZE PORTS, AND INTERMEDIATE POINTS REACHED BY THE IMPERIAL CHEN-TAI LINE TO TAIYUANFU, THE TAO-CHING LINE, AND THE PEINLO RAILWAY TO KAIFENGFU AND HONANFU. CONNECTION IS ALSO MADE AT PEKING WITH THE PICTURESQUE KALGAN LINE, "THE ROAD TO THE GREAT WALL."



I. R. N. C.—TIENTSIN SETTLEMENT STATION.

## THE IMPERIAL RAILWAYS OF NORTH CHINA PASS THROUGH THE MOST INTERESTING PART OF CHINA

**PEKING:** THE CAPITAL, WITH ITS WALLS, PALACES, TEMPLES AND TOMBS.—**TIENTSIN:** THE GREAT TRADE CENTER OF NORTH CHINA.—**TONGSHAN:** THE LARGEST MINING AND INDUSTRIAL TOWN IN THE EMPIRE.—**SHANHIKWAN:** WHERE THE GREAT WALL ENDS AT THE SEA.—**NEWCHWANG:** THE BUSY COMMERCIAL PORT OF MANCHURIA.—**MUKDEN:** THE ANCESTRAL HOME OF THE MANCHU DYNASTY. A MINIATURE PEKING, WITH ITS WALLS, IMPERIAL PALACES, TEMPLES AND TOMBS.

**THE THROUGH TRAINS ARE EQUIPPED WITH BUFFET AND DINING CAR SERVICE, AND COMFORTABLE, MODERN COMPARTMENT SLEEPING COACHES WILL BE PLACED IN OPERATION THIS SEASON**

For further information apply to any office of

## The Cie. Internationale Des Wagons-Lits, Thos. Cook & Sons, or Imperial Railways of North China

TIENTSIN, NORTH CHINA J. E. FOLEY, Traffic Manager

# SIEMENS CHINA

## ELECTRICAL ENGINEERING CO., SHANGHAI

## MANUFACTURERS OF EVERYTHING ELECTRICAL

CHINA BRANCH HEAD OFFICE: AT SHANGHAI, I-B, JINKEE ROAD

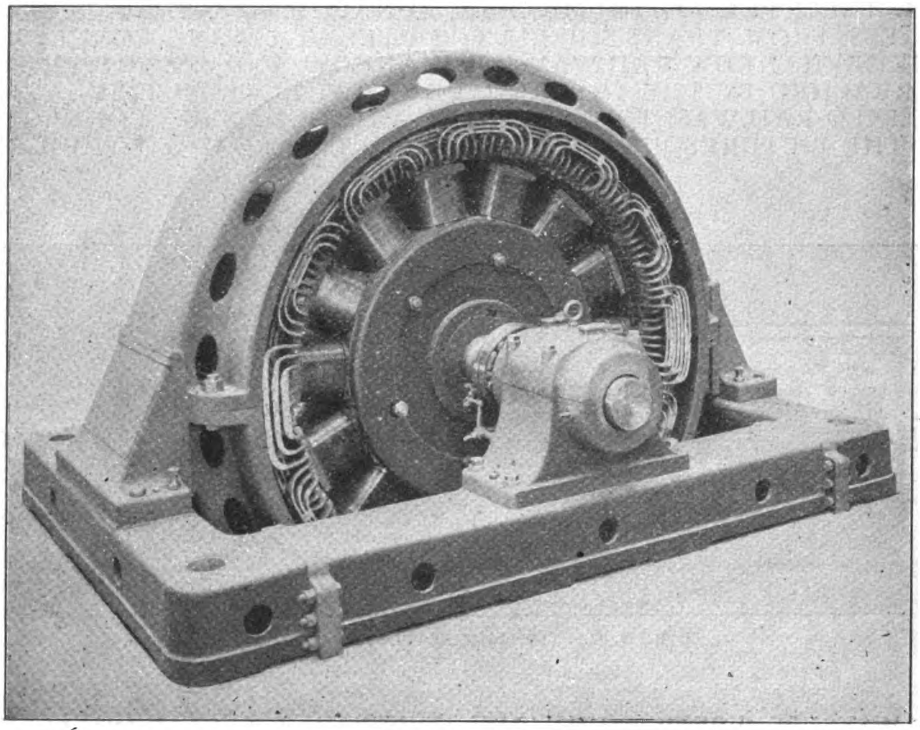
SUB-AGENCIES: AT TSINGTAO, HANKOW, TIENTSIN AND PEKING WITH A LARGE STAFF OF EFFICIENT ELECTRICAL ENGINEERS

Representing the Siemens Companies:

SIEMENS BROTHERS DYNAMO WORKS - - - London-Stafford
SIEMENS BROTHERS & COMPANY - - - - London-Woolwich
SIEMENS & HALSKE A. G. - - - - - Berlin-Nonnendamm
GEBRUEDER SIEMENS & CO. - - - - - Berlin-Lichtenberg
SIEMENS-SCHUCKERTWERKE G. m. b. H. - - Berlin-Nuernberg

Also THE EAST ASIATIC WIRELESS TELEGRAPH CO. "TELEFUNKEN," SHANGHAI
Cable Address: FOR SHANGHAI, HANKOW, TIENTSIN & PEKING "MOTOR;" FOR TSINGTAO, "SIEMENS"
Codes used: PRIVATE, LIEBER'S, A-I and A B C 5th Ed.

SIEMENS TANTALUM-LAMPS
BRIGHTEST AND MOST ECONOMICAL LIGHT



"PROTOS" - MOTORCARS
DRIVEN BY GASOLINE OR ELECTRICITY

DIRECT COUPLED THREE-PHASE ALTERNATING CURRENT

## DYNAMO

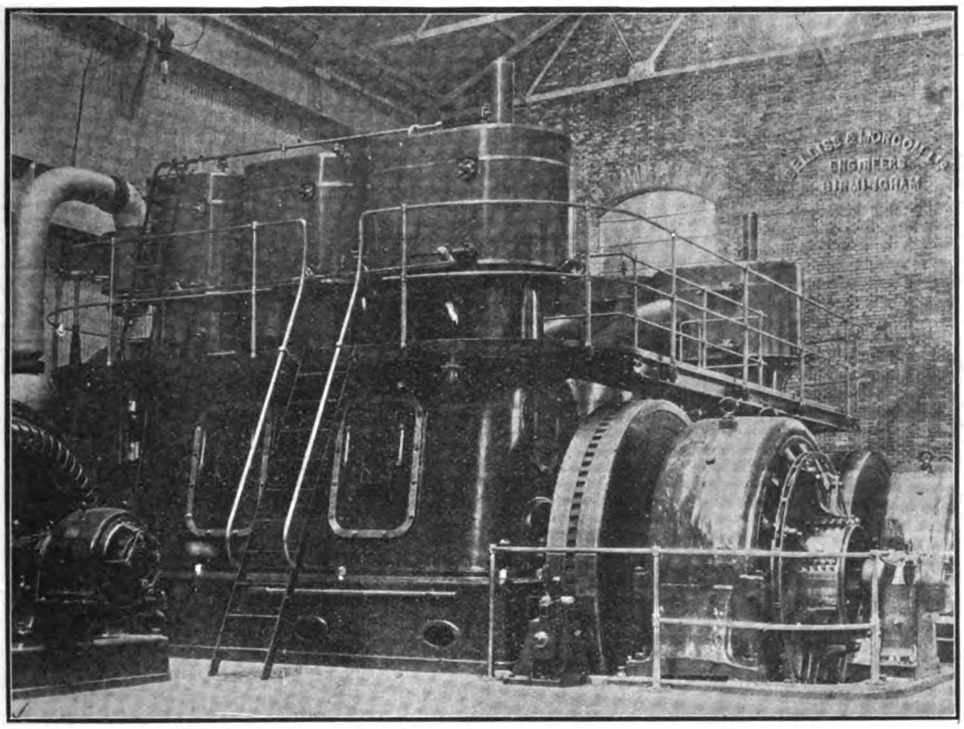
**as installed at Mukden, Kirin, Soochow, Luanchow Mines and Tsingtao by Siemens-China**

***Plans and Estimates given for all descriptions of Electrical Machinery and Apparatus on short notice***

### COMPLETE EQUIPMENTS FOR

*Lighting, Power and Traction Plants—Electrical Pumping, Winding and Hauling Plants—Builders of the "Zoelly" Steam Turbine—Manufacturers of Telephone, Telegraphic and Roentgen Ray Apparatus, Watermeters, Ozone Machines, Cables, Glow-lamps, Batteries, Electric and Gasoline Motor-Cars.*

**WIRELESS TELEGRAPHY INSTALLATIONS, SYSTEM TELEFUNKEN**



SHANGHAI MUNICIPAL ELECTRICITY WORKS
TOTAL 2,200 B. H. P.

# Belliss & Morcom, Ltd.

**ENGINEERS**

**Birmingham, England**

**China District Office, 8 Jinkee Road, Shanghai**

Patent Self-Lubricating Quick Revolution Engines. 4,500 Engines aggregating 900,000 H. P. in use, of which 66 engines totalling 18,850 H. P. is in China.

**Air Compressors**

**Condensing Plants**

**Centrifugal Pumping Sets**

**Line, Exhaust, Steam and Mixed pressure turbines**

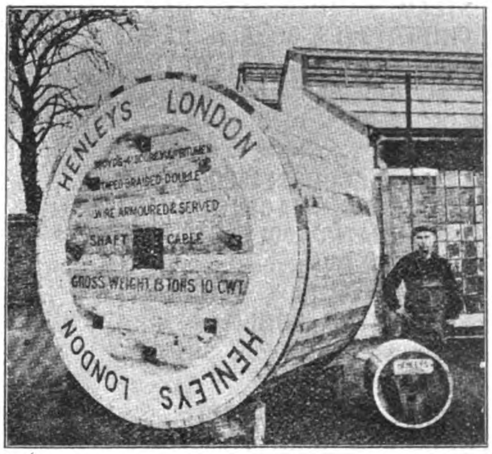
# W. T. Henley's Telegraph Works Co., Ltd.

**LONDON, ENGLAND**

***CHINA DISTRICT OFFICE, 8 Jinkee Road, Shanghai***

**STOCKS CARRIED**

Prices on application for Rubber, Paper, Jute or Bitumen. Insulated, House Service, Aerial and Bare Copper Cables. Flexibles or Telephone and Telegraph Cables of all kinds. Motor Car Flexibles. House Fuse Boxes; Dividing Boxes, Service Boxes, Pavement Frames and Covers; Joint Box Compounds, etc., etc.




# BABCOCK & WILCOX, LIMITED

**PATENT WATER TUBE BOILERS** — **SALES AGENCY, 8 JINKEE ROAD, SHANGHAI**

**A Few Eastern Works Which Have Installations From One Or All the Above Firms**

*Green Island Cement Co., Hongkong.*
*Electric Traction Co., of Hongkong.*
*China Light & Power Co., Canton.*
*Manila Electric R. R. & Light Co.*
*Shanghai Municipality Electricity Works.*
*Cie Francaise de Tramways et d'Eclairage Electriques de Shanghai.*
*Ewo Cotton Spinning and Weaving Co.*
*Naigai Wata Kaisha Spinning Co.*
*Imperial Railways of North China.*
*Shanghai-Nanking Railway.*
*Admiralty Dockyard, Hongkong.*
*The Trading Co., Hankow.*
*The Hongkong Electric Light Co.*
*The Hongkong and Whampoa Dock Co.*
*China Inland Light Co., Shanghai.*
*Swatow Electric Light Co.*
*Hankow Light & Power Co.*
*Mukden Central Station.*
*Imperial Nanking Electric Light Works.*
*Chungking Electric Light Co.*
*Hankow Waterworks Light Co.*
*Tientsin Gas & Electric and Light Co.*
*Peking Electric Light Co.*
*Peking Syndicate, Ltd.*
*Hanyang Iron & Steel Works.*
*Tientsin Enterprising Corporation.*
*Fushun Colliery, Manchuria.*
*Changsha Electric Light Co.*
*Peiyang University.*

## DAVID W. BELL:—*Representative*

**8 JINKEE ROAD, SHANGHAI**

**Telegraphic Address:—"GOLDFLOWER"** **Codes:—A. B. C. 5th Ed., Lieber's & Engineering**

SHANGHAI
HONGKONG
CANTON
HANKOW
CHUNGKING
TIENTSIN
TSINGTAU

# ARNHOLD, KARBERG & CO.

TSINANFU
NEWCHWANG
NEW YORK
BATTERY PL.
LONDON
BERLIN

## General Agents for

**ELECTRICAL GENERATORS, SUPPLIES, ETC.**
Allgemeine Electricitaets Gesellschaft (A. E. G.) Berlin.

**ELECTRIC TRAIN LIGHTING**
Electric Train Lighting Co., Berlin.

**RAILWAY MATERIAL**
Arthur Koppel Ltd., Berlin

**STEAM LOCOMOTIVES**
The Baldwin Locomotive Works, Philadelphia, Pa.

**TELEPHONE APPARATUS**
The Western Electric Co., New York and Chicago.

**STEAM HAMMERS AND MACHINE TOOLS OF ALL DESCRIPTION FOR RAILWAYS AND ARSENALS.**
Niles-Bement-Pond Co., New York.

**STEAM & COMPRESSED AIR DRILLING MACHINERY, PNEUMATIC TOOLS, ETC.**
The Ingersoll-Rand Co., New York.

**STEAM PUMPS**
The A. S. Cameron Steam Pump Works, New York.

**REINFORCED CONCRETE MATERIALS (KAHN SYSTEM.)**
The Trussed Concrete Steel Co. Detroit, Mich.

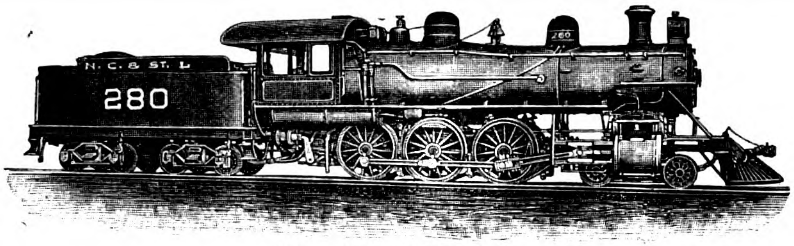
**BLASTING POWDER, FUSES, RACKAROCK.**
The Rendrock Powder Co., New York.

**BELTING**
The Gandy Belting Co., Baltimore, Md.

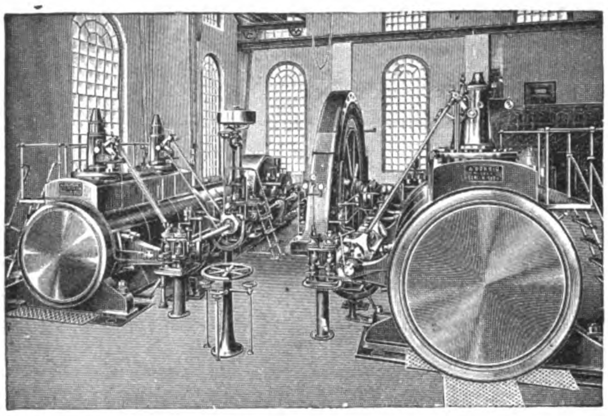
**ROOFING**
The Paraffine Paint Co., San Francisco, Cal.

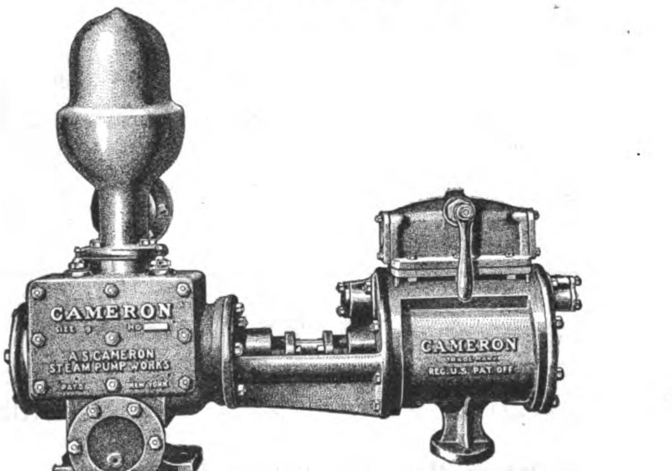
**AUTOMATIC CAR COUPLERS, BOLSTERS, ETC.**
The Gould Coupler Co., New York.

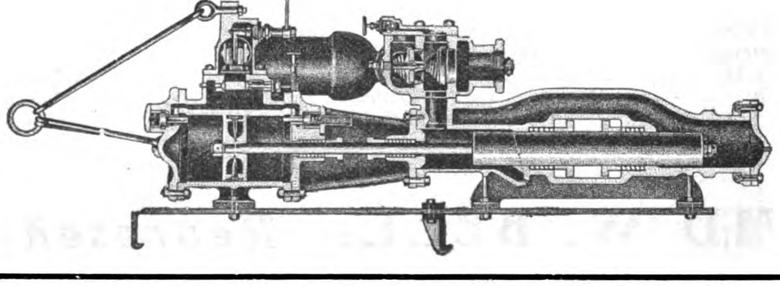
**WELL DRILLING MACHINERY.**
Star Drilling Machine Co., Akron, Ohio.



BALDWIN LOCOMOTIVE


A. E. G. ELECTRICAL PLANT



## General Agents for

**LOCOMOTIVE HEAD LIGHTS.**
The Pyle-National Head Light Co., Chicago, Ill.

**HEATING APPARATUS FOR PASSENGER CARS.**
William C. Baker Heating & Supply Co., New York.

**BOILER STAY BOLT MATERIAL**
The Falls Hollow Staybolt Co., Cuyahoga Falls, Ohio.

**METALLIC PACKING AND LOCOMOTIVE SANDERS**
The United States Metallic Packing Co., Philadelphia Penna.

**STAIR TREADS.**
The American Mason Safety Tread Co., New York.

**ROOFING**
Paraffine Paint Co., San Francisco.

**MOTORS, TORPEDO AND MINING MATERIAL**
Berliner Maschinenbau A. G. vorm Schwarzkoff, Berlin.

**ENGINES, PUMPS, BOILERS, ICE MACHINES, ETC.**
A. Borsig, Tegal, Berlin.

**AMMUNITION, ETC.**
Deutsche Waffen and Munitions Fabriken, Berlin, Karlsruhe.

**ARMY RIFLES, ARMS, ETC.**
Waffenfabrik Mauser A. G., Obendorf, Neckar.

**GUNS AND AMMUNITION**
Skodawerke A. G., Pilsen.

**MACHINE TOOLS**
Ludw. Loewe, A. G., Berlin.

**WAR VESSELS**
Stettiner Maschinenbau A. G. "Vulcan."

**STEEL**
Jonas & Colver, Ltd., Sheffield.

**COTTON MILLING MACHINERY**
Asa Lees & Co., Ltd., Oldham.

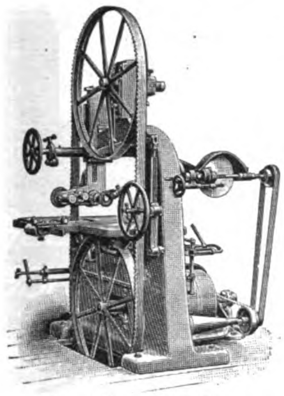
**MOTOR BOATS**
Carl Meissner, Hamburg.

**DIESEL ENGINES**
Diesel Engine Co., Ltd. London.

## ENGINEERING AND ELECTRICAL DEPARTMENTS

# "DEFIANCE" WOOD-WORKING MACHINERY

is known the world over and used in the Arsenals, Ship-yards, and work-shops of fourteen of the leading governments. Write us Today for 535 page catalog.



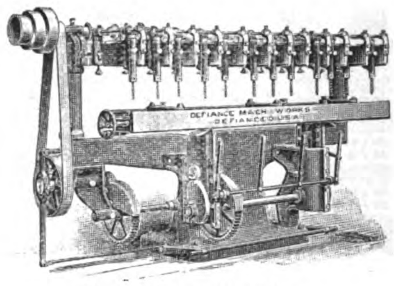
No. 4 Band Rip Saw

Invented and Built by

**THE DEFIANCE MACHINE WORKS**

DEFIANCE, OHIO, U. S. A.

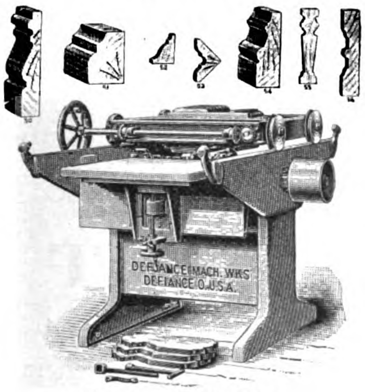
For manufacturing Automobile Wheels and Bodies, Hubs, Spokes, Wheels, Wagons, Carriages, Rims, Shafts, Poles, Neckyokes, Single Trees, Hoops, Handles of all kinds, Bobbins, Spools, Insulator Pins, Table Legs, Balusters, Shoe Lasts, Oval Wood Dishes and for General Woodwork.



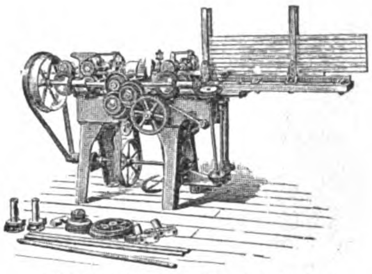
Gang Boring Machine

EASTERN AGENTS:

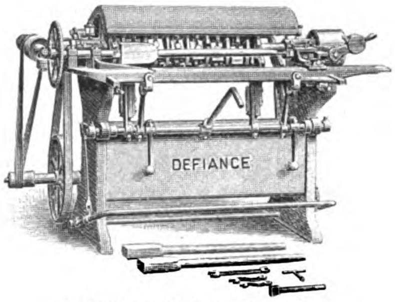
Schuchardt & Schutte, Shanghai | Mitsui & Co., Tokyo
Frank L. Strong, Manila, P. I. | London Office, 71 Queen St., E.C.



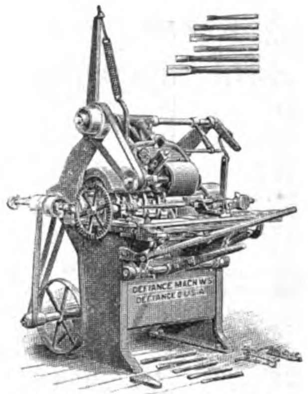
Transverse Moulder



Automatic Long Handle Lathe




"D" Shovel Handle Lathe



24" Hammer Handle Lathe

---

# *General Electric Company*

*PRINCIPAL OFFICE: SCHENECTADY, N. Y.*

## Largest Manufacturer of Electrical Apparatus in the World

The most extensive engineering and manufacturing resources in the world enable the General Electric Company to produce completely developed apparatus and accessories for the generation and transmission of electricity and its application to all lighting and power purposes -:- -:- -:- -:- -:- -:- -:- -:-

**Far Eastern Addresses:**

General Electric Company (Special representative for the Far East) 23 Water Street, Yokohama, Japan

Mitsui & Co., Tokio, Japan.

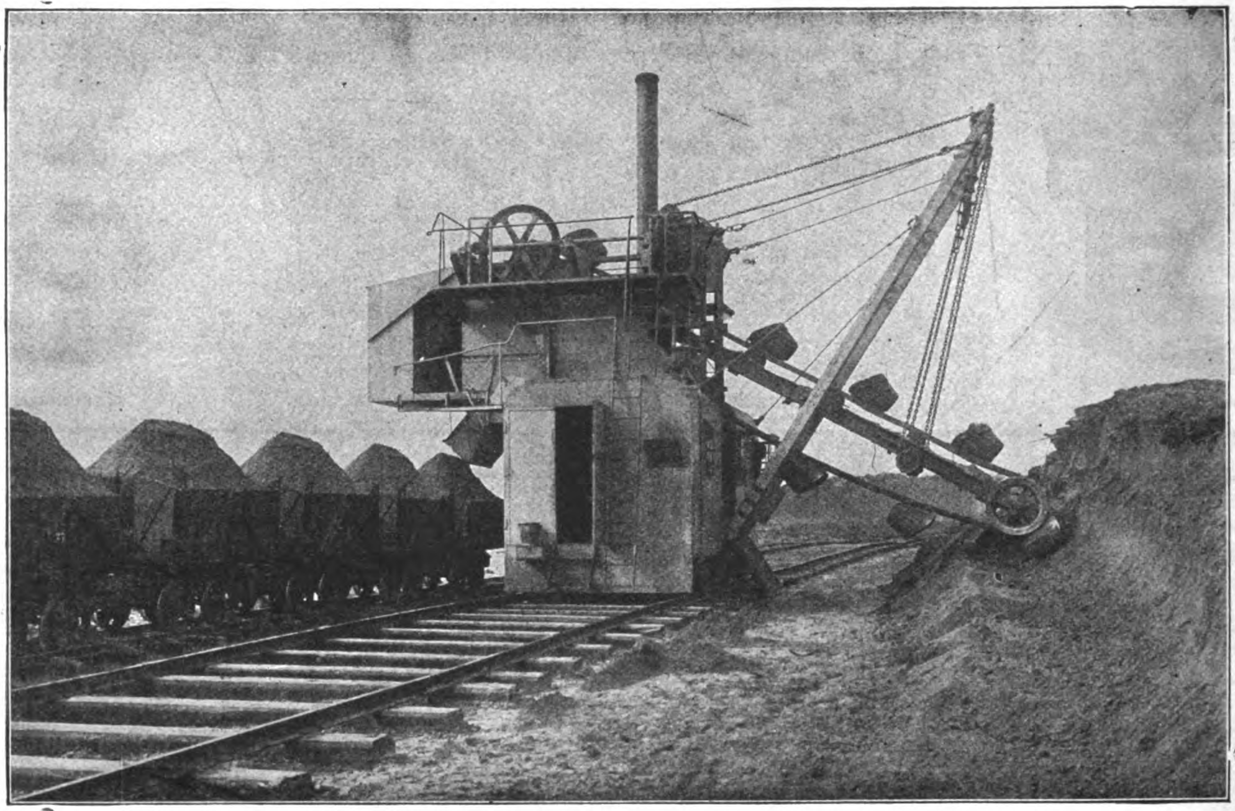
Bagnall & Hilles, Yokohama, Japan

Fearon, Daniel & Co. }
Andersen, Meyer & Co. } No. 4 Yuen Ming Yuen Road, Shanghai, China.

Frank L. Strong, Manila, P. I.

# MACHINERY OF ALL KINDS

## RAILWAY MATERIAL AND SUPPLIES



RAILWAY EXCAVATOR

*AGENTS FOR:*

Felten & Guilleaume-Lahmeyer Werke, Frankfort/ Main, Electrical Supplies : : : :

Gasmotoren Fabrik Deutz, Cologne-Deutz, Original "OTTO" Gas and Oil Engines and Suction Gas Plants : :

Haniel & Lueg, Duesseldorf, Hydraulic and Mining Machinery, Heavy Steel Castings :

## SIEMSSEN & CO.

ENGINEERS & CONTRACTORS

SHANGHAI

HONGKONG, CANTON, HANKOW
TIENTSIN, TSINGTAU

*SPECIFICATIONS AND ESTIMATES GIVEN FOR INDUSTRIAL PLANTS OF EVERY DESCRIPTION*

All Kinds of Machine Tools, Pumps, Locomobiles, Oil Engines, Dynamos and Motors carried in stock at Shanghai

*AGENTS FOR:*

Orenstein & Koppel, Ltd., Berlin, Railway Material : : : :

R. Wolf, Magdeburg-Buckau, Patent Superheated Steam Locomobiles : : : : :

Weise & Monski, Halle/ Saale, Pumping Machinery : : :

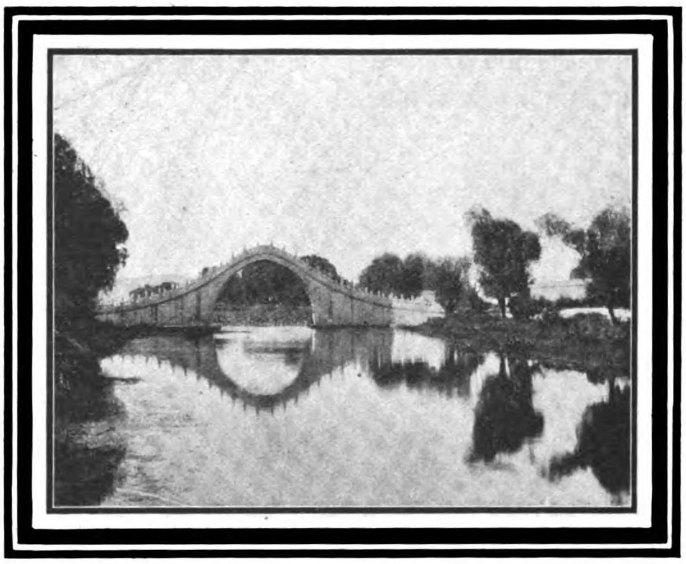
# WE HAVE SPENT $15,000.00

During the past year on Equipment for our

## MODERN PHOTO-ENGRAVING PLANT

Inspection invited

We are now ready to fill your orders for half-tone and zinc blocks in a prompt manner. Foreign quality at the lowest Shanghai Prices.



We have installed a machine for engraving a variety of fancy borders on half tone blocks. The only one of this kind in the East. If interested telephone No. 1555 and our solicitor will call on you.

WE ARE OPERATING THE ONLY THREE-COLOR HALF-TONE PLANT IN CHINA

## THE COMMERCIAL PRESS LTD.

LARGEST PUBLISHING HOUSE IN CHINA

Printing, Binding, Lithographing, Stereotyping, Electrotyping, Type Casting, Engraving and Bank Note Printing.
Agents for Paper, Printing Machines, and Printers' Supplies.

BOOK DEPOT. 119 Foochow Road — WORKS. North Honan Road



## CADWALLADER GIBSON LUMBER CO.

WHOLESALE AND RETAIL DEALERS AND EXPORTERS IN

## PHILIPPINE MAHOGANY

Hardwood Timber for Bridge Construction and Railway Sleepers a Specialty : : : :

We Own Two Big

### Sawmills and Furniture Factory

### Gibson Furniture

BLINDS, SASH, DOORS, ETC., MANUFACTURED BY

Up-to-date Machinery

OFFICE FIXTURES, SHOW WINDOWS, STORE FURNISHINGS, DESKS, ETC.

ESTIMATES FURNISHED

Yard Office . . . . . { 302 CALLE SAN MIGUEL, MANILA
SIMAY, BATAAN, P. I.



Cable Address: CAHOY

Codes: Western Union, Universal Edition; A. B. C.

## Export and Import Lumber Co.

SUCCESSORS TO

## The B. W. Cadwallader Company

P. O. Box 433 MANILA, P. I. Telephone 363

**Importers** of Oregon Pine Lumber

**Exporters** of Philippine Hardwood Lumber, Sleepers and Timber for Railroad Construction, etc. : : : : : :

### W. W. PAYNE

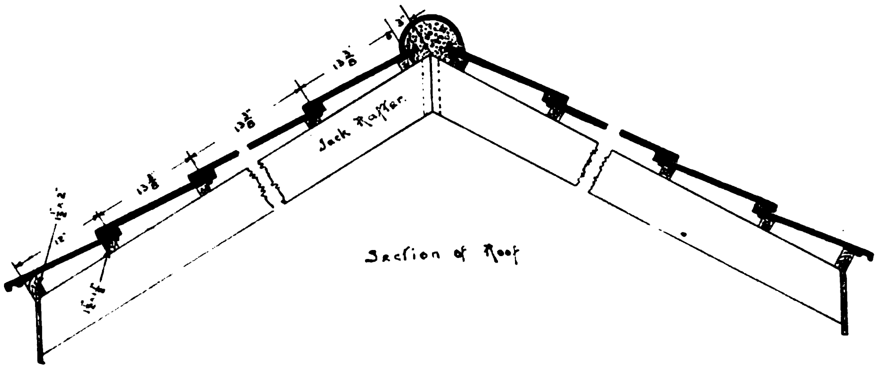
President and General Manager

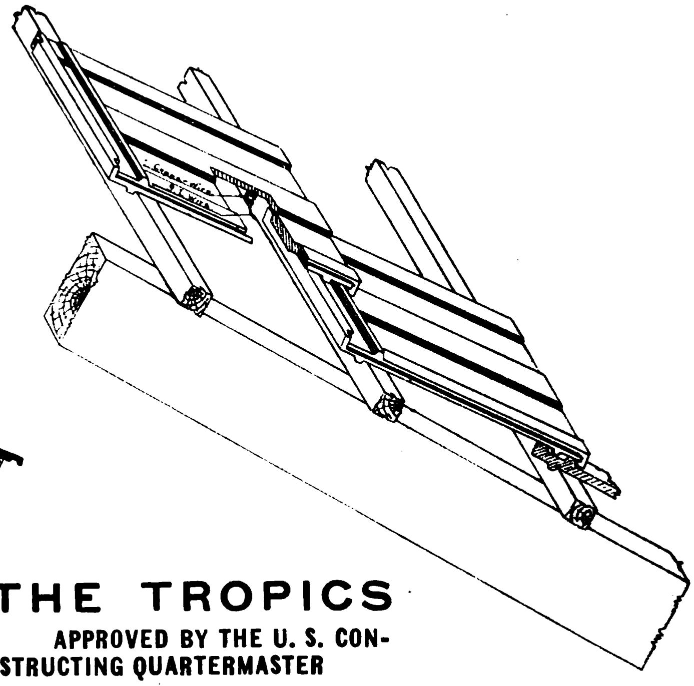
Mills and Office

51 CALLE TANDUAY MANILA, P. I.

# DOUBLE INTERLOCKING REINFORCED CEMENT ROOFING TILE

PATENT APPLIED FOR



## THE ROOFING FOR THE TROPICS

ADOPTED BY THE PHILIPPINE GOVERNMENT AS ITS STANDARD || APPROVED BY THE U. S. CONSTRUCTING QUARTERMASTER

## C. FRESSEL & CO.

G. LUDEWIG S. EN C. SUCCESSORS

**Office: 118-122 Nueva, Binondo, Manila, P. I.**

P. O. Box 455 Cable Address: FRESSEL. Codes Used: A. B. C. 4th and 5th Editions Telephone 195



Cable Address: "BANGA"—A. I. CODE

Main Office: ZAMBOANGA, MINDANAO, P. I.

## The Port Banga Lumber Co., Inc.

**Mills: Port Banga, Sibugay Bay, Mindanao, P. I.**

We are cutting at present:

Yacal
Molave
Guijo
Lumbayao
Pagatpat

WHOLESALE ONLY!

Posts, Pilings, R. R. Ties, Bridge Timber, Telegraph Poles.

Telegraph Cross Arms, and Lumber cut to dimensions.

Temporary Piles of 4 Group timber 10 to 70 ft. long.

Permanent Piles of Liusin, Molave, 10 to 70 feet long.

Total amount cut and manifested 12 months ending October 1st, 1908, 3,034,651 Board Feet.

The Harbor at Port Banga, where largest Ocean-going vessels can enter, is safe at all seasons of the year and anchorage is good. Ships always promptly loaded and we give absolute guarantee that material will be delivered alongside as rapidly as ship can take it. Ship Charter can be based on these facts. One to two ships per month calling at Port Banga makes it possible to make prompt deliveries.



Telephone No. 551
P. O. Box No. 284

Cable address: "GREILSAMMER"

## Greilsammer Bros.

### General Importers

### Wholesale and Retail Jewelers

Diamonds,
Jewelry,
Watches.
Sterling and
Plated Ware

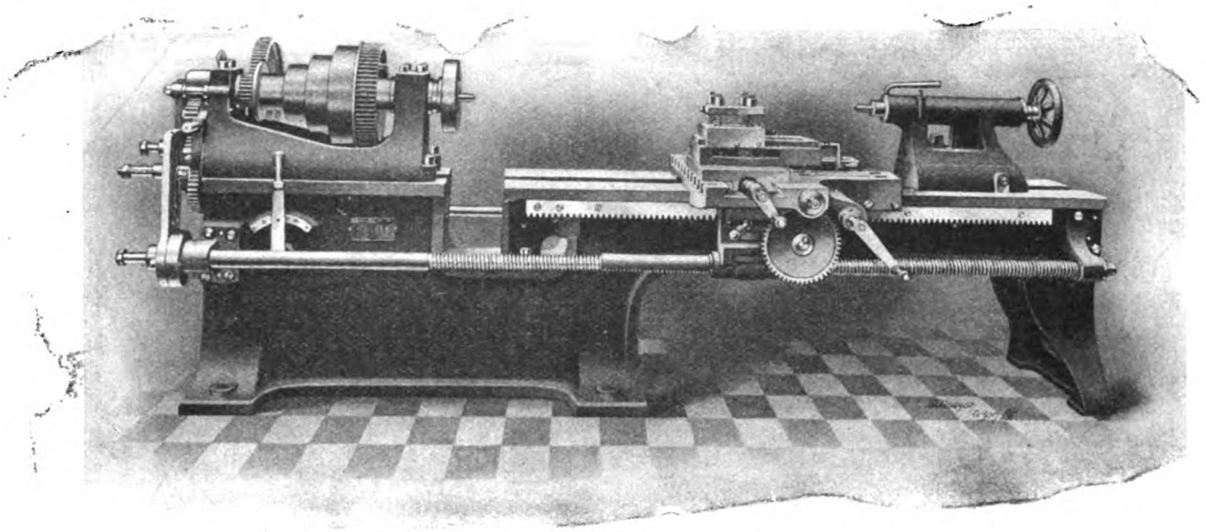
34-36 Escolta Manila, P. I.

# JARDINE, MATHESON & CO., LTD.

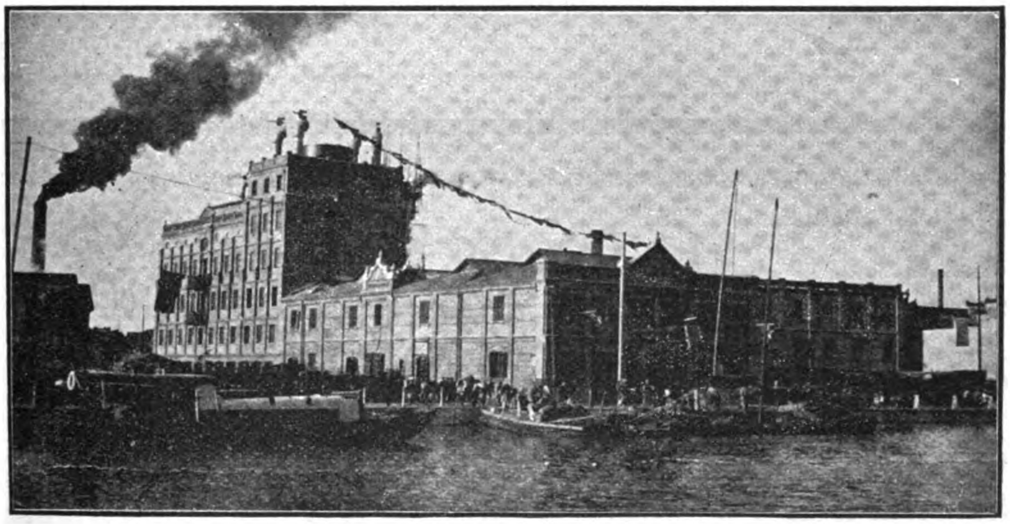
## HONGKONG AND CHINA

**MACHINERY DEPARTMENT**
**Peking Road, Shanghai**

**ENGINES, BOILERS, PUMPS AND ELECTRICAL MACHINERY FOR ALL PURPOSES, ENGINEERING AND ELECTRICAL SUPPLIES IN STOCK**



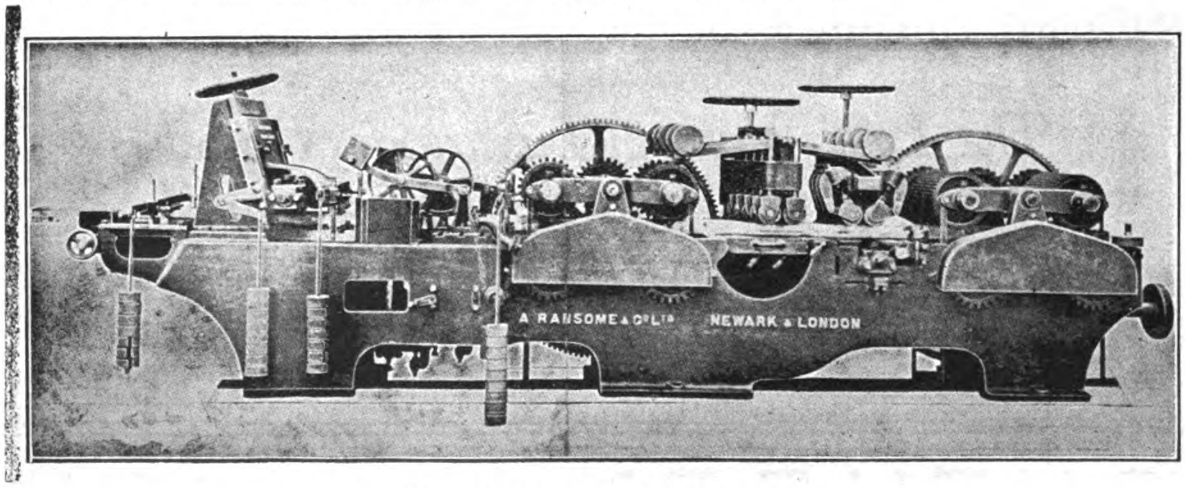
LATHES AND TOOLS OF ALL KINDS



YUEN CHUNG FLOUR MILL, SHANGHAI—MACHINERY FURNISHED AND INSTALLED—JARDINE MATHESON & CO.

**SOLE AGENTS FOR:**

Messrs. Chas. Price & Co.
Messrs. J. B. White & Bros.
Messrs. Gwynnes, Limited.
Messrs. Marshall Sons & Co., Ltd.
Messrs. Merryweather & Sons, Ltd.
Messrs. A. Ransome & Co., Limited.
Messrs. Meredith Jones & Sons, Ltd.
Messrs. O. & W. Ormerod.
The Westinghouse Brake Co., Ltd.
Messrs. Bruce Peebles & Co., Ltd.
The British Northropp Loom Co.
Messrs. Joshua Hendy Iron Works.
Messrs. Henry Livesey, Limited.
The Barber Asphalt Roofing Co.
Messrs. Thos. & Wm. Smith, Limited
The Kitson Lights Foreign Supply Co.
North British Locomotive Co., Ltd.
Etc.

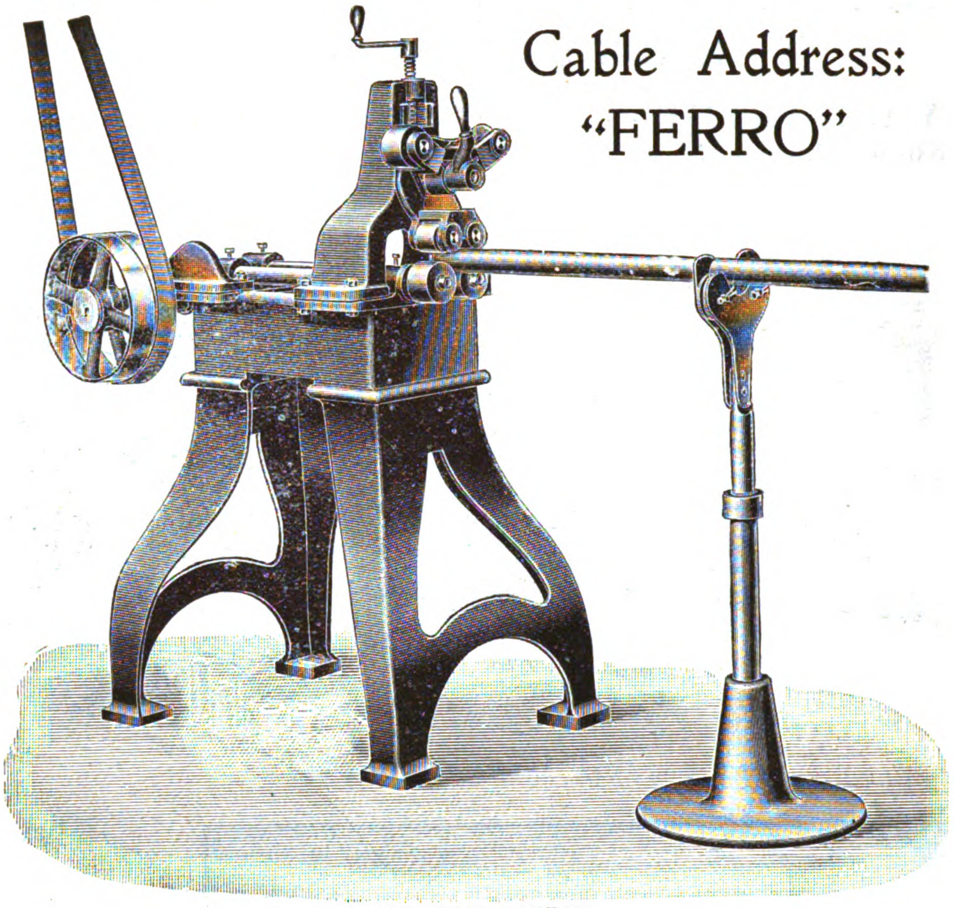



HIGH-SPEED FLOORING AND MATCH BOARDING MACHINE

# SHANGHAI MACHINE COMPANY

Cable Address:
"FERRO"

EXPANDING,
REDUCING
AND
CUTTING OFF
MACHINE
FOR
BOILER TUBES



A SPLENDID
MACHINE
FOR
LOCOMOTIVE
REPAIRSHOPS,
DOCKYARDS,
ETC.

SHANGHAI, HANKOW

# SAN FRANCISCO TO THE EAST

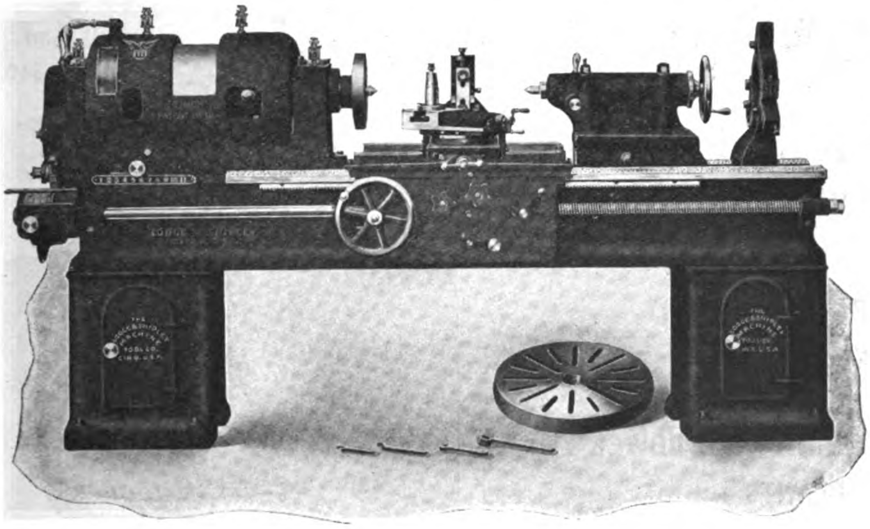
*The Overland Limited*

**Electric-lighted parlor sleeping cars, combination buffet-library and drawing-room observation cars. Diner all the way**

*The Last Word in Luxurious Travel*

**Over the scenic route and straight across the Great Salt Lake by way of Lucin-Ogden cut-off, a wonderful triumph of modern engineering**

# SOUTHERN PACIFIC



# Speed and Power

Almost any lathe can be run at a high speed for a short time on some light job where very little power is required.

By running in gear at an extremely slow speed, the same lathe could probably take a heavy cut.

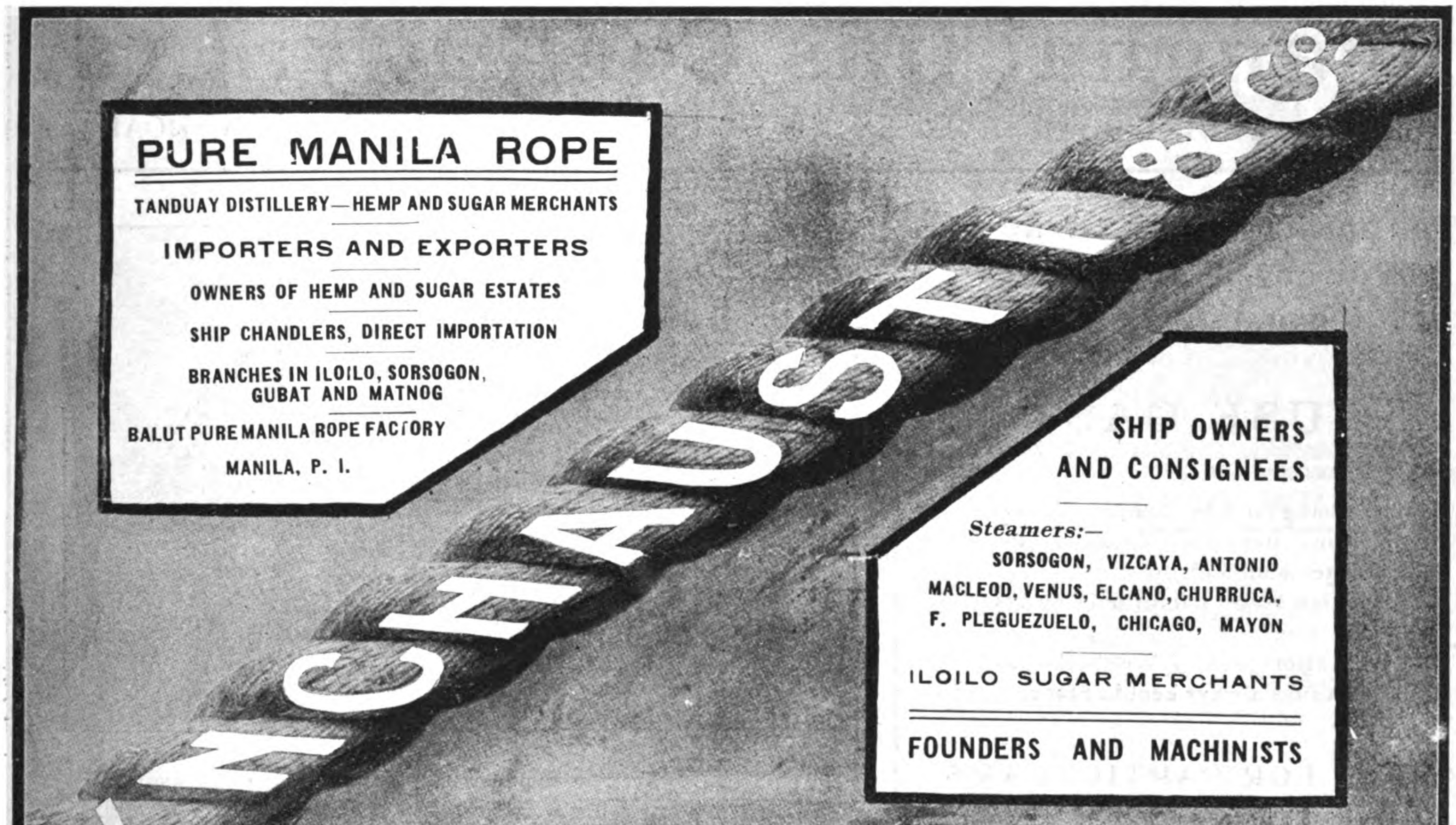
But up-to-date lathe practice calls for heavy cuts at high speeds. You want to combine the two qualities in one lathe. In this the "Patent Head" Lathe excels. Write for our catalog No. 21 for full particulars.

**The Lodge & Shipley Machine Tool Company**

**Cincinnati, Ohio, U. S. A.**

EUROPEAN AGENTS—Chas. Churchill & Co., Ltd., London, Birmingham, Manchester, Glasgow, Newcastle-on-Tyne; Werner Hult, Helsingfors; Donauwerk Ernst Krause & Co., Vienna, Prague, Budapest; V. Lowener, Copenhagen, Christiania, Stockholm; Alfred H. Schutte, Barcelona, Bilbao, Brussels, Cologne, Liege, Milan, Paris; Schuchardt & Schutte, St. Petersburg; R. S. Stokvis & Zonen, Ltd., Amsterdam, Rotterdam, Groningen, Brussels.
OTHER AGENTS—Andrews & George, Yokohama; Bevans & Edwards, Propty., Ltd., Melbourne; Adolfo B. Horn, Havana.

***Agents wanted for territory in which we are not already represented.***



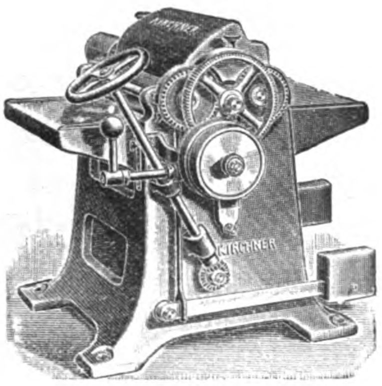
CABLE ADDRESS:
"FEDERATION"

# GERMANN & CO., Ltd.

PHONE 500
P. O. BOX 310

## Electrical and Mechanical Engineers and Contractors

3 PASAJE DE PEREZ, MANILA, P. I.

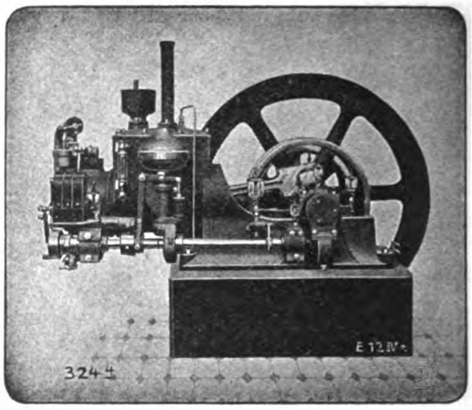


KIRCHNER'S PLANER

GENERAL MACHINERY
AND SUPPLIES

ELECTRIC LIGHT AND POWER
PLANTS

SCIENTIFIC APPARATUS
AND INSTRUMENTS



PETROLEUM MOTOR ENGINE

COMPLETE INDUSTRIAL AND AGRICULTURAL MACHINERY OUTFITS

CONSULTING AND CONSTRUCTING ENGINEERS

REPRESENTING LEADING MANUFACTURERS OF THE UNITED STATES AND EUROPE

---

# Shanghai Gas Company, Ltd.

Offices: THIBET ROAD Show Room: NANKING ROAD

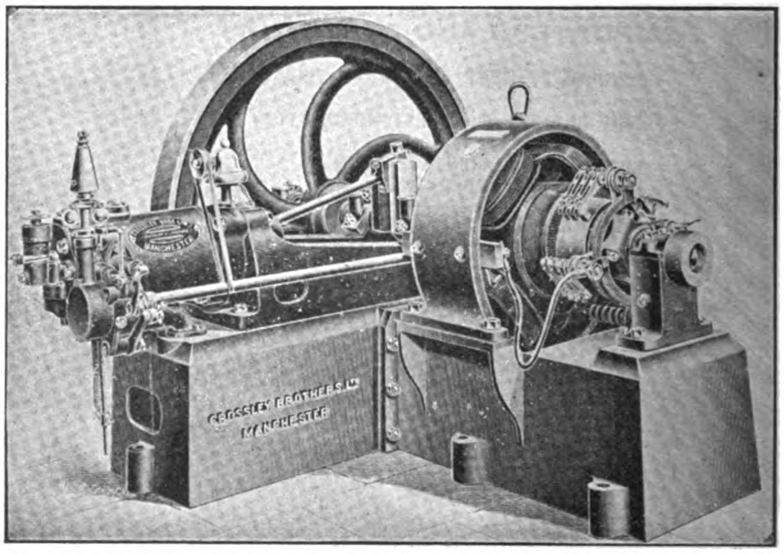
**To obtain Light, Heat or Power in the most economical way**

## USE GAS

The Shanghai Gas Company let on loan (free) Gas Cookers, Gas Fires and Radiators.
Also High Power Lamps and Geysers on hire.
Large assortment of Welsbach Gas Fittings always kept in Stock.

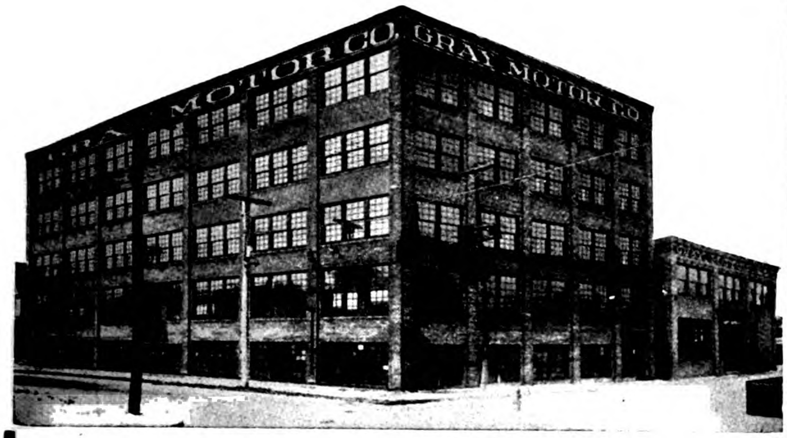
APPLY FOR PARTICULARS

威麟



4 KILOWATT PLANT, DIRECT CONNECTED TO CROSSLEY ENGINE

## Agents for CROSSLEY BROS.

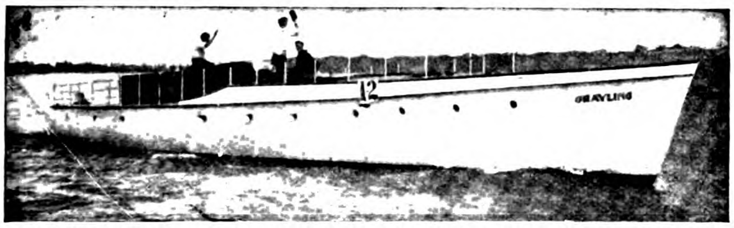



**GRAY MOTORS are made in the largest and most up-to-date plant in the world devoted exclusively to the manufacture of 2-cycle marine motors.**

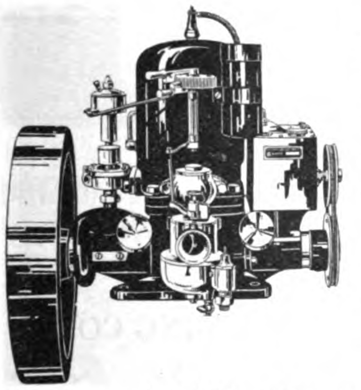
We build nothing in our plant but GRAY motors. Our plant was built and equipped to build GRAY Motors and *nothing else.*

We *concentrate* our entire attention, ability and capital to build the *best* motor it is possible to build, and sell it at a price that gives us the *greatest volume of 2-cycle marine business in the world.*

When you get a GRAY Motor, you get the benefit of all our concentration at a price made possible only by the enormous volume of our business.



*The Fastest Cruising Motor Boat in the World* of its length and beam, the yacht Grayling," is equipped with three GRAY MOTORS.



*Features of Gray Motors:*
Fuel Economy.
Long Life.
Every part absolutely interchangeable.
Mechanical pump lubricator.
Sparl coil on cylinder.
Starts without cranking.
Long, high grade, interchangeable bearings, cylinder, piston, piston rings are ground to a mirror finish giving perfect compression. Ball thrust bearings.
Oil ring on cranks, elevated gear driven commutator, bronze gear driven pump, Krice or Schebler carburetor.

*No other motor*, high price or low price, includes all these features.

1, 2 and 3 cylinders 3 to 36 horse power

*Heavy Duty Motors for Fishing Boats* and commercial purposes. Gray Motors are made in styles and sizes suitable for *any* boat under *any* conditions.

All prices of Gray Motors include complete marine and electrical outfits, with batteries all wired up, duplicates of parts subject to the most wear and complete outfit of high grade tools. The entire outfit is carefully packed in a water proof cover and excelsior and securely fastened in an iron bound box.

The Gray Motor Company maintains a Department of Foreign Service which gives every inquiry prompt, careful and courteous attention. Correspondence is conducted in any language. Write today for catalog and full information.

# GRAY MOTOR CO.

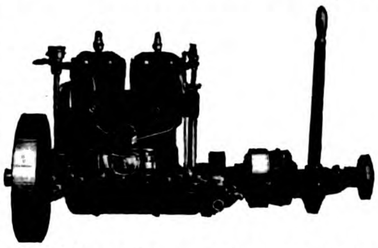
**88 Leib St., Detroit, Mich., U. S. A.**

# FERRO The World's Standard Boat Motor

In your choice of a motor boat, the deciding factor should be the engine. On it depends your ultimate pleasure and satisfaction in boating.

By choosing the Ferro Motor, you take no chance. You know that you are getting a marine engine which, in actual service, has proven itself the world's standard.

The Ferro design embodies the most advanced ideas in engine construction. The materials and workmanship that enter into every process of Ferro manufacture are up to the highest standard of quality.



Ferro motors are built to meet conditions in the Far East. They are today giving satisfaction in all parts of the world.

Write us for full information on boats, motors and equipment. We can help you select your exact requirements. Ferro literature sent free on request. A complete line can be secured from the nearest office of this paper.

**We Want Agents**

We still have some favorable territory for which we have no selling agents. If you are in a position to take up the sale of Ferro Motors, write us in full.

**The Fastest Boat in Auckland Harbor, New Zealand, Equipped with 25-HP Ferro Engine**

**THE FERRO MACHINE & FOUNDRY COMPANY**

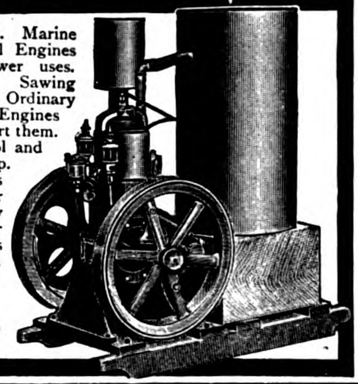
**Largest Marine Engine Builders in the World.**

**Main Offices, 820 Superior Ave. Cleveland, O., U. S. A.**

**New York Office, 44 Cortlandt St., 2nd Floor**

# DETROIT OIL ENGINES *Fully Warranted*

Marine Oil Engines for boats. Marine Reverse Gears. Stationary Oil Engines for farms, shops, and all power uses. Pumps and pumping outfits. Sawing outfits. Electro-generating sets. Ordinary lamp oil used for fuel. Detroit Engines require no heater or lamp to start them. Attachments for petrol, alcohol and Gas. Sizes from 2 hp. to 100 hp. One to eight cylinders. Prices very attractive. Write for agency terms. Valuable territory offered to reliable firms or individuals. Bank references given. Handsomely illustrated catalog sent on request.



**DETROIT ENGINE WORKS,**
**Melarum Avenue, Detroit, Michigan, U.S.A.**

# IMPROVED AUTOMATIC WRENCH

**Self-adjusting, works automatically on pipes, rods and nuts. Strongest, simplest and handiest wrench ever made. Grips instantly, the harder the pull the tighter the grip. Especially suitable for Machine shops, Garages and Dock Yards. Made in the following sizes:**

| | | | | |
|---|---|---|---|---|
| 6 in. | opens to | 7/8 in. | Price | 2s. |
| in. | " | 1 1/8 in. | " | 3s. |
| 12 in. | " | 1 1/2 in. | " | 4s. |
| 16 in. | " | 2 in. | " | 5s. |
| 20 in. | " | 2 1/2 in. | " | 6s. |

**Sample wrenches sent prepaid on receipt of Money order.**

**IMPORTERS, DEALERS and AGENTS. The "Superior Wrench" is in use throughout the United States and in many foreign countries. Write for our special offer and printed matter.**

**SUPERIOR WRENCH CO., Marshalltown, Iowa, U. S. A.**

# Fearon Daniel & Co.

# Andersen Meyer & Co.

## *ENGINEERING DEPARTMENT*

**4 and 5 Yuen Ming Yuen Road, Shanghai**

### *SOLE AGENTS FOR:*

GENERAL ELECTRIC CO. OF NEW YORK
Electric Light, Power, and Railway Apparatus, Electric Supplies.

BRITISH THOMSON-HOUSTON OF RUGBY
Electric Engineers and Manufacturers.

BUDA FOUNDRY & MANUFACTURING COMPANY
Railway Material, Track Supplies, Etc.

McCONWAY & TORLEY CO.,
Janney Car Couplers.

C. T. HAM MANUFACTURING CO.,
Lanterns and Lamps.

BOLTE & WEYER CO.,
Gasoline Lighting Systems.

KUEFFEL & ESSER,
Drawing Materials and Surveying Instruments.

THE FERRO MACHINE & FOUNDRY COMPANY,
Gasoline Motor Boat Engines.

THE AVERY MANUFACTURING CO.,
Agricultural Implements.

THE H. W. JOHN'S-MANVILLE CO.,
Asbestos Goods, Steam Packing, Etc.

A. & P. STEVEN,
Lifts.

AJAX FIRE ENGINE WORKS,
Chemical Fire Engines.

DEMPSTER, MOORE & CO.,
Machine Tools.

DE LA VERGNE REFRIGERATING CO,
Ice & Refrigerating Machinery.

DE LOACH MANUFACTURING CO.,
Wood Working Machinery.

THE SULLIVAN MACHINERY CO.,
Mining Machinery.

**MACHINERY AND ENGINEERING SUPPLIES**

**RAILWAY MATERIAL, ELECTRIC LIGHT AND POWER PLANTS**

# VELUVINE

BULLDOG-PAINTS AND VARNISHES

BULLDOG-brand.

F. A. v. d. LOO & Co
Shanghai

## IS THE PAINT OF THE FUTURE

## For Out and Indoor Work of Every Kind

**RAILROADS**
**TRAMWAYS**
**BARRACKS**
**RESIDENCES**
**SCHOOLS**
**YACHTS**
**STEAMSHIP**
**COMPANIES**
**HOSPITALS**
**HOTELS**
**BUILDINGS**
**FACTORIES**

A NEW and perfected Veluvine paint superseding Varnish, with remarkable spreading, elastic and weather resisting properties. **One coat equals two coats of common paint and one of varnish.** Sanitary. Washable. Will not crack. Will not peel. Will not blister. Will not fade. Twelve months' guarantee given by the manufacturer. Saves Time, saves Labour, saves Varnish, saves Money.

**ONE GALLON PROPERLY APPLIED WILL COVER ABOUT 90 SQUARE YARDS**

Veluvine paint spreads like best wearing body Varnish, and **dries slowly** in the same way, but is far more elastic, and therefore does not crack, as even the best Varnishes will. **Veluvine paint is not an enamel,** and should not be compared with enamels for price. It is much **more economical, more durable** and covers **more surface**. Veluvine paint is the only satisfactory paint for Galvanised Iron and Galvanised Steel.

Any colour not included can be matched. Special quotation on application with sample of exact tint required.

## Prices Quoted on Application

General Agents for CHINA, JAPAN, SIAM

# F. A. VANDER LOO & CO.

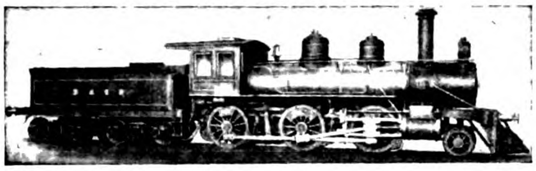
2 Jinkee Road ❧ Shanghai, China ❧ Telephone 2530

*Agents for the Philippines: Messrs. SPRÜNGLI & CO.*

## Baldwin Locomotive Works

Principal Offices and Works:
PHILADELPHIA, PA., U. S. A.
Cable Address: "Baldwin, Philadelphia"

*Agents for China:* *ARNHOLD, KARBERG & CO.*
*Agents for Japan:* *FRAZAR & SALE, Yokohama*



Builders of
LOCOMOT VES
of every description

Including
ELECTRIC LOCOMOTIVES
ELECTRIC TRUCKS

## Standard Steel Works Co.

HARRISON BLDG., PHILA., PA., U. S. A.

SOLID FORGED AND
ROLLED STEEL WHEELS

STEEL TIRED WHEELS, FORGINGS

STEEL AND IRON AXLES, CASTINGS

ELLIPTIC AND HELICAL SPRINGS

## Swift's Silver Leaf Lard

Is known throughout the world wherever a pure lard is in demand.

Swift's Silver Leaf Lard is always of uniform high quality, the standard of purity first set being always maintained.

Put up in 3-lb., 5-lb. and 10-lb. tin pails.

**Swift & Company, U. S. A.**

ORIENTAL HEADQUARTERS
SWIFT & COMPANY . . . . . No. 32 Nanking Road, Shanghai
WM. H. ANDERSON & CO., . . Foot Santa Cruz Bridge, Manila

## THE ACKLEY ADJUSTABLE BRAKE

**Adapted to all kinds of Cars. As Service or Emergency Brakes**

Takes up slack Chain quickly. *Powerful,* Easily installed. All moveable parts revolve on roller bearings which gives ease of action and quick release.

Full information or trial Brakes on application to any of the following Agents:—

**FRANK L. STRONG**
Agent for Manila, P. I.

**CHINA GENERAL ENGINEERING CO.,**
Agents for China, Shanghai.

**SALE & FRAZER LIMITED,**
Agents for Japan, Korea, and Manchuria, Tokio.

AUSTRALIAN AGENCY:
**R. W. CAMERON & CO.**
Sydney, Melbourne, and Wellington

Kontinentale Bremen, Ges., M. B. H. Lankwitz. Berlin.
Schmassmann & Co., 110 Bahnhofstrasse, Zurich.
C. Dubbelman, 45 Rue de la Caserne, Bruxelles.
G. S. Albanese, Ingenieur, 62 Rue Saint-Lazare, Paris.

OR DIRECT TO

**BRITISH ACKLEY BRAKE CO.**
Westinghouse Building, London, W. C.

**ACKLEY BRAKE COMPANY**
50 Church Street, New York City, U. S. A.

**Patents issued in 23 Countries. Pending in other countries.**

***ABSOLUTELY RELIABLE***

GRIFFIN S. ACKLEY, PATENTEE

THE FAR EASTERN REVIEW
COMMERCE ENGINEERING FINANCE

VOL. VII. MANILA, P. I., SHANGHAI, AND YOKOHAMA, DECEMBER, 1910 No. 7.

# THE PHILIPPINE HAT INDUSTRY

A feature of industrial training, which is characterizing the program of the Department of Public Instruction in the Philippines, is the training of the youth of the Philippines to a greater efficiency in household industries which predominate as a source of livelihood among a large portion of the provincial population. Among these industries hat weaving has been given a place, and in order to proceed wisely and effectively the Director of primary schools. This is a household industry capable of great development in the Philippines through the agency of the schools. Many raw materials admirably adapted for use in the weaving of hats are widely distributed over the Islands, and others now narrowly localized can be given general distribution. A growing market exists in the United States and Europe, which will accept all the product the Philippines can possibly Philippines, has never before been the subject of any serious investigation. Mr. Hugo H. Miller, of the Philippine School of Commerce, has here compiled an extensive and reliable body of information. This material has taken four years in its preparation, and has been gathered from students, weavers, hat brokers, exporters, and supervising and industrial teachers throughout the Islands by correspondence and conversation, and personal investigation in hat-producing towns.

THE WEAVING OF A PHILIPPINE HAT

the Bureau of Education has made a thorough investigation into the present status of the industry throughout the islands and accumulated a volume of data of inestimable value in pushing his educational campaign. As a result we have received a copy of a recent bulletin by Mr. Hugo H. Miller, of the Philippine School of Commerce, which fully covers the history of hat weaving and represents not only careful examination of statistics, but the result of personal investigation covering a period of four years in every section of the islands where this industry may be said to engage even minimum attention. The bulletin is effectively illustrated and through the courtesy of Director Frank R. White we reproduce the plates in this issue.

In his introduction Director White says:

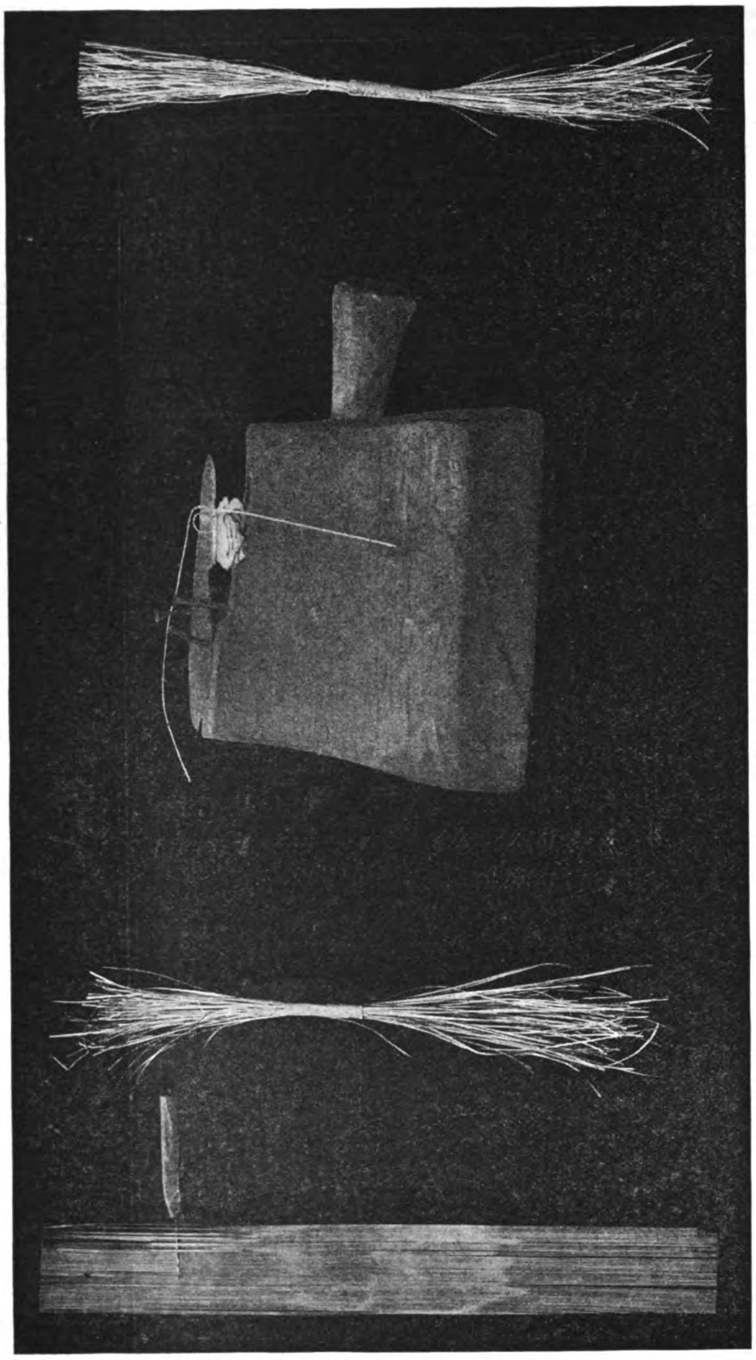
"The Bureau of Education has introduced hat weaving as a prescribed exercise in the supply. The local market is demanding constantly a larger output and a higher-grade article. The Bureau of Education considers it one of its legitimate functions to give such training in the making of good hats as will afford a larger number of children a permanent means of earning a livelihood.

"As indicative of the development which is possible for this industry in the Philippines, it may be noted that in the fiscal year 1910 621,375 hats were exported from the Islands, and 189,190 of these went to the United States. These figures represent a very small fraction of the proportions which the hat industry may assume when the Islands are ready to supply the growing demands which are being made for Philippine hats in the world markets.

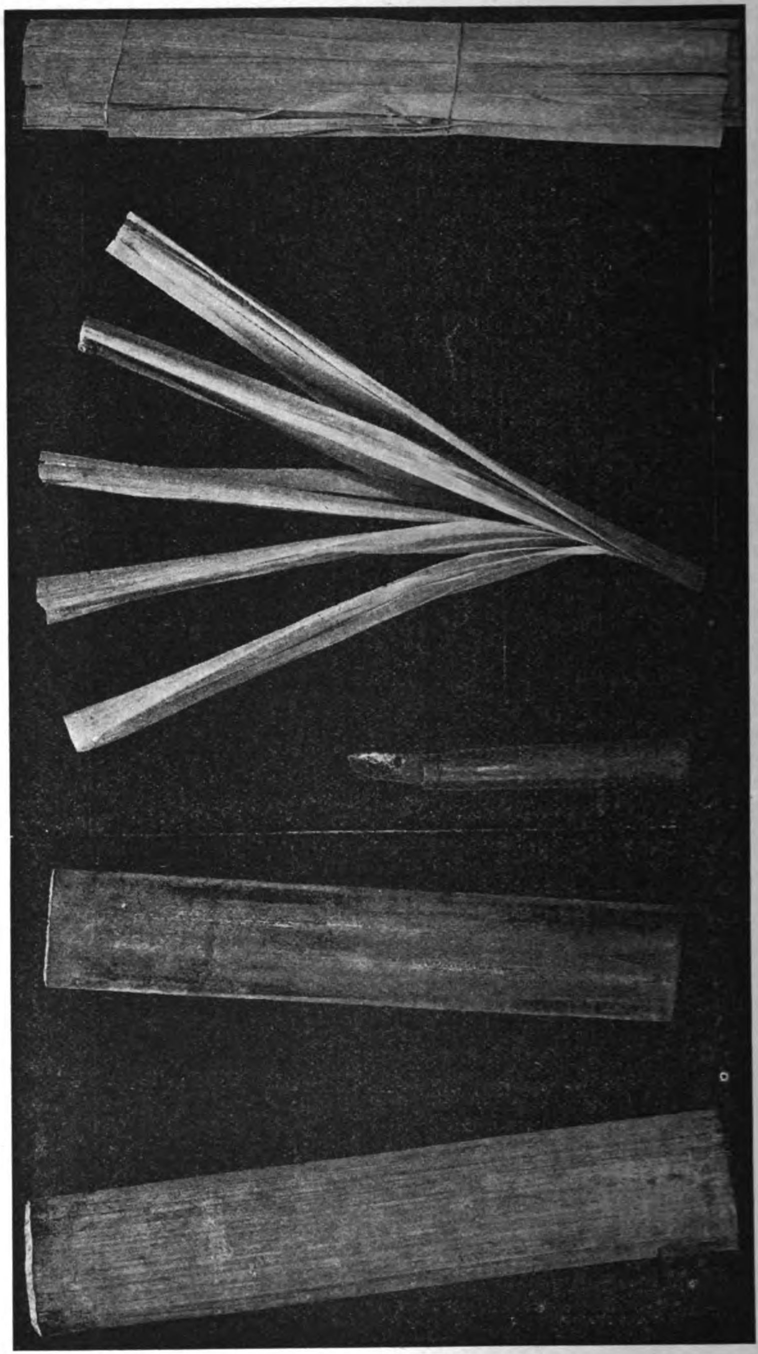
"This report covers a new field. Hat making, like most other minor industries in the Upon technical details Mr. Miller has had the assistance of Mr. U. S. Andes, principal of the industrial department, Philippine Normal School."

*Present State of Philippine Industries.*—Before taking up the subject in detail Mr. Millar gives a comprehensive idea of the present status of this important industry and says:

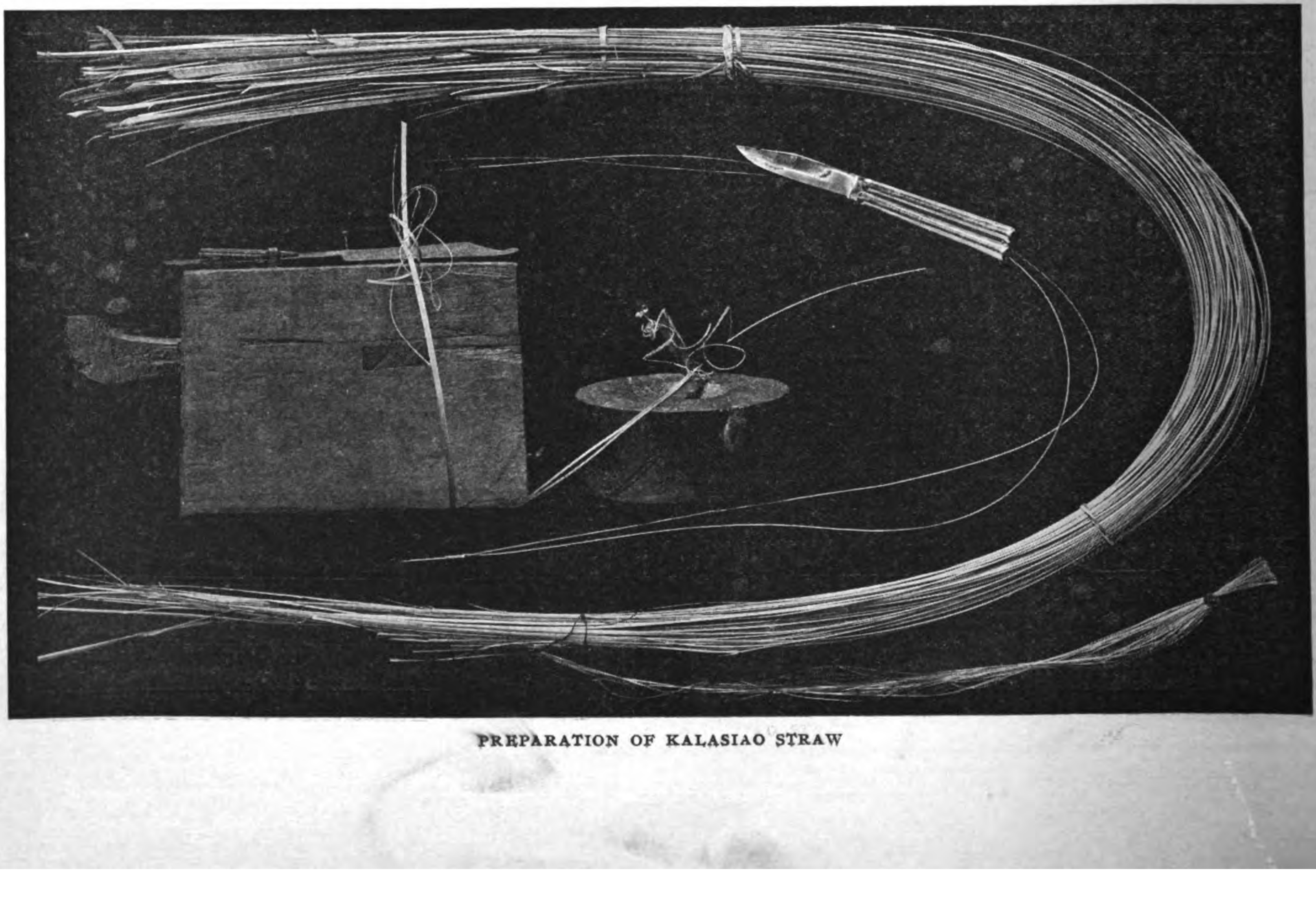
"A considerable source of revenue to provincial households is found in the domestic industries carried on for the most part by the women assisted by the men and children, sometimes in their spare moments, more often as regular employment. The system as carried on to-day in the Philippines bears very close resemblance to that followed in England and on the Continent in the eighteenth century before the industrial revolution, the introduction of machinery and the application of steam and other power to it. and the factory



PREPARATION OF BAMBOO STRAW



PREPARATION OF BAMBOO LAYERS



PREPARATION OF KALASIAO STRAW

system. The comparison between these systems of household manufacture—the one long since passed away, the other of growing importance—is an interesting subject, but since this report is intended to explain and classify the various products rather than to enter the historical economic interest of the system, such a discussion can not be gone into here; nor will space permit comparison with present systems of domestic industry found in oriental countries, such as Japan, China, and India, and in certain parts of Europe.

"Two general ideas, however, should be emphasized: First, that the production of various hats, mats, textiles, embroideries, and other articles constitutes important industries occupying the time of thousands of persons, bringing into the households thousands of pesos and becoming more and more recognized trades; secondly, that the manufacture of each particular article is limited to particular towns. This concentration is often accounted for by the proximity of the raw material to the town wherein the article is manufactured, as the making of cloth from abaka in Albay, Batangas, and Iloilo; of bamboo hats in Baliwag, Pandan mats have long been woven there. In 1904 a woman was brought from Lukban to teach the weaving of buntal hats. Advance was slow at first, but finally a class of twelve girls was formed. The teacher was eventually sent back to Lukban and one of the girls took her place. Soon the women of the town became interested in the weaving and were taught by the schoolgirls, so that to-day Mahayhay has quite an export of buntal hats. The bury-hat industry was introduced in the same way and with equal success.

"While many workers make loom weaving, hand weaving, or embroidering their vocation, the natural time of household industries is in spare hours, as between harvests and during idle moments between duties of the household, just as in Europe the long winters and spare hours are turned into funds by making toys, embroidery, hat braids, and other articles."

The bulletin contains an exhaustive description of the materials used, the processes of preparation, the methods of weaving, blocking, bleaching, and goes into the question of the availability of material and processes as affecting the cost, with relative quality and durability of product. He writes: "The qualities of these hats depend chiefly on the kind of straw used. The word straw must not be taken to mean the stalks of cereals, such as rice and wheat. It is here intended to mean the prepared strips of grass, midrib, or leaf used to weave into hats."

Again, "Hat straw differs from each other in strength, but while their tensile strength, which is of such importance in ropes, is a factor, their toughness is of even more importance, for many straws, which will break easily when pulled, make excellent hat material, since they will not crack upon being bent, and have the quality of not wearing away easily. A quality of softness might here be included, since the harsh straws like bamboo are usually easily cracked, while the soft straws, such as the Kalasiao and the Sabutan, are usually tougher. The tensile strength of hat straw is of chief importance in regard to the weaving, for the material must then have sufficient strength not to break. (Kalasiao is a term applied to hats made from the midrib of the unopened buri palm leaf at a town of that name.)

*The Bamboo Hat.*—The two principal products from which the commercial hat is manufactured at the present time are bamboo and the buri-palm. The output of bamboo hats for local use and export exceed any other kind. The bamboo is cut and left to wither in the shade for about five days when it is cut into sections at the node. The middle sections are available only as the bottom sections would produce material too short and the top, straw too weak. These pieces are split by an expert process into sections so that the result gives one-eighth the original thickness, including the green outer skin. "The remaining strip of bamboo is flattened by placing one end on a bench and forcing the rest down flat so as to remove the curve. The stripper then cuts two lines across the top, one deeper than the other, but not through the material, and pries and pulls the bamboo into three layers (lapat), each of which can again be reduced to thinner layers in the same manner, so that from four to ten layers, besides the green outer skin (balat), can be obtained, though the usual number is five or six, and it is very seldom that more than eight are produced. The layers are then boiled in water for about half an hour and bleached in the sun—a strengthening and whitening process."

"The bamboo layers are divided into grades according to their distance from the green outer skin. While the green skin is useless and is thrown away, the layers next to it produce the best material, it being of dark straw color and of the strongest and finest texture. As the layers occur farther away from the skin they become lighter in color, of less strength, and coarser in texture."

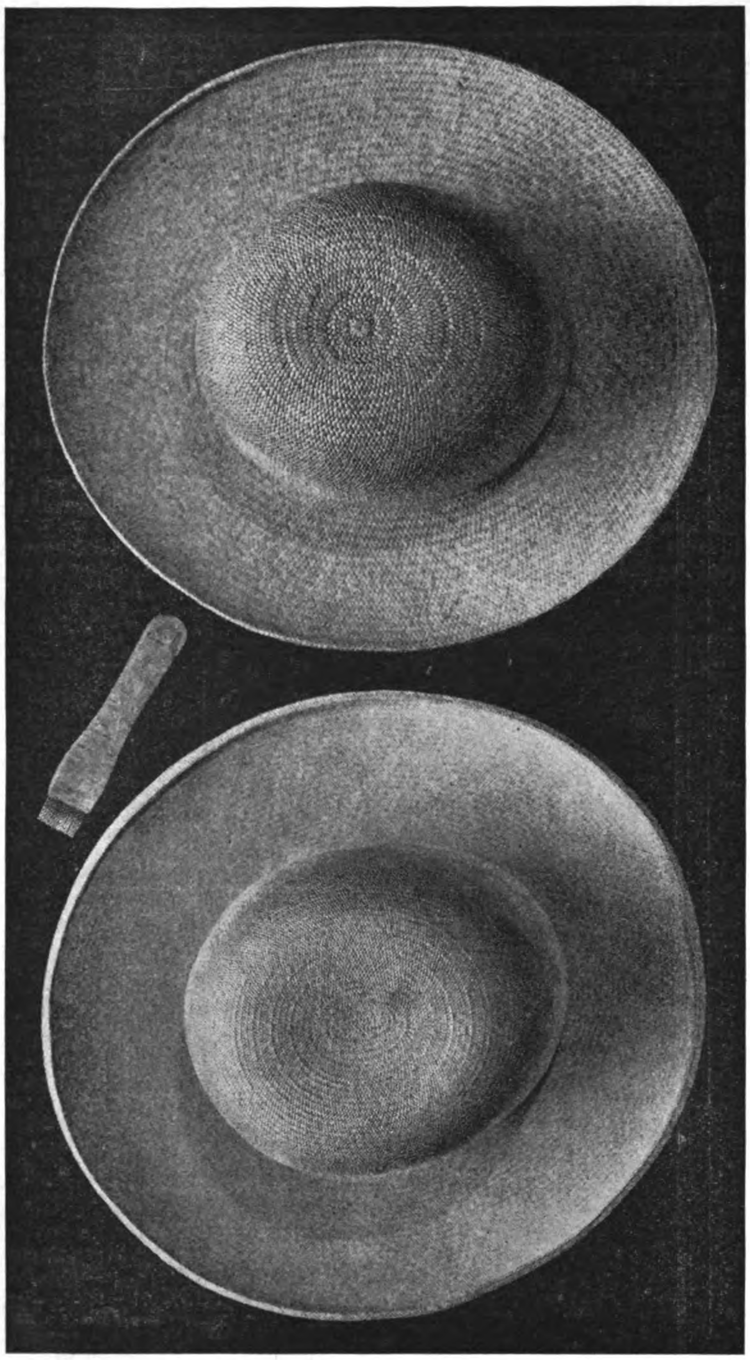
He points out that the finest hats are manufactured from layers Nos. 1 and 2 and commercially the weavers' prices range from 30 centavos to ₱25 and cases have been reported where a bamboo hat has been sold for ₱300. The Manila market is supplied with the medium grades and the export comprises the medium and coarser grades. In concluding reference to bamboo hats, Mr. Miller says:

"Bamboo hats are not as long-lived as most Philippine export hats, but they must be considered a strong hat nevertheless. As already stated, they are the chief export hat of the Philippines, being sent in increasing numbers annually to Europe and to the United States, where they are known under the name of Java[1] or Manila hats. One sees a great many bamboo hats in the United States worn by both men and women. Hat pins are liable to damage bamboo materially, punching it full of holes. This is sometimes obviated by using patent fasteners, which fasten the hat underneath the crown. The hats do not keep their shape well without size, although it should be noted that weavers are now beginning to put a stiffening of sinamay between the two pieces of the double hat. Bamboo bleaches very well and easily, though it does not hold the bleach as well as the Kalasiao straw."

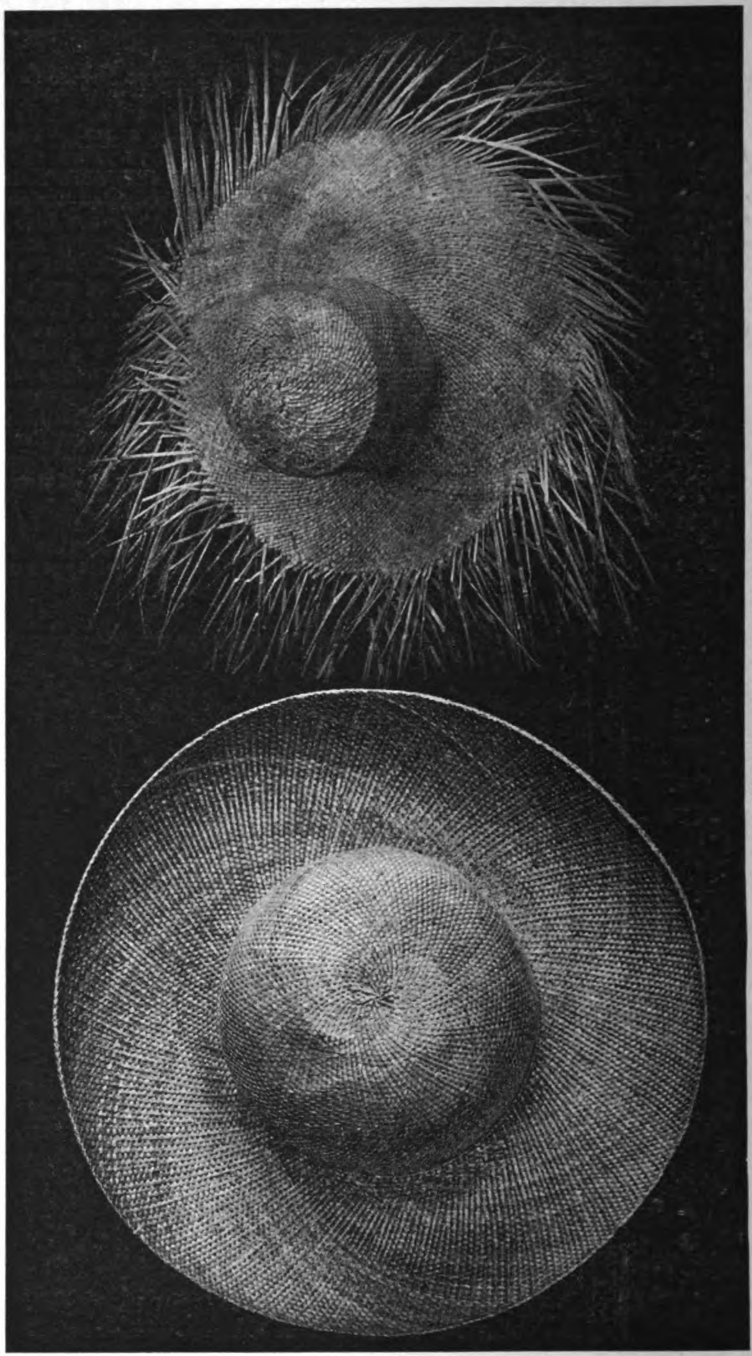
"The chief hat qualities of bamboo are therefore the ease with which the straw can be prepared, the large quantity of raw material at hand, the varying fineness of straw which can be so easily made, the flexibility of the straw facilitating weaving, and the ease with which it is bleached and dyed. These are the causes, undoubtedly, which

PREPARATION OF BURI STRAW BETWEEN RAZOR BLADES

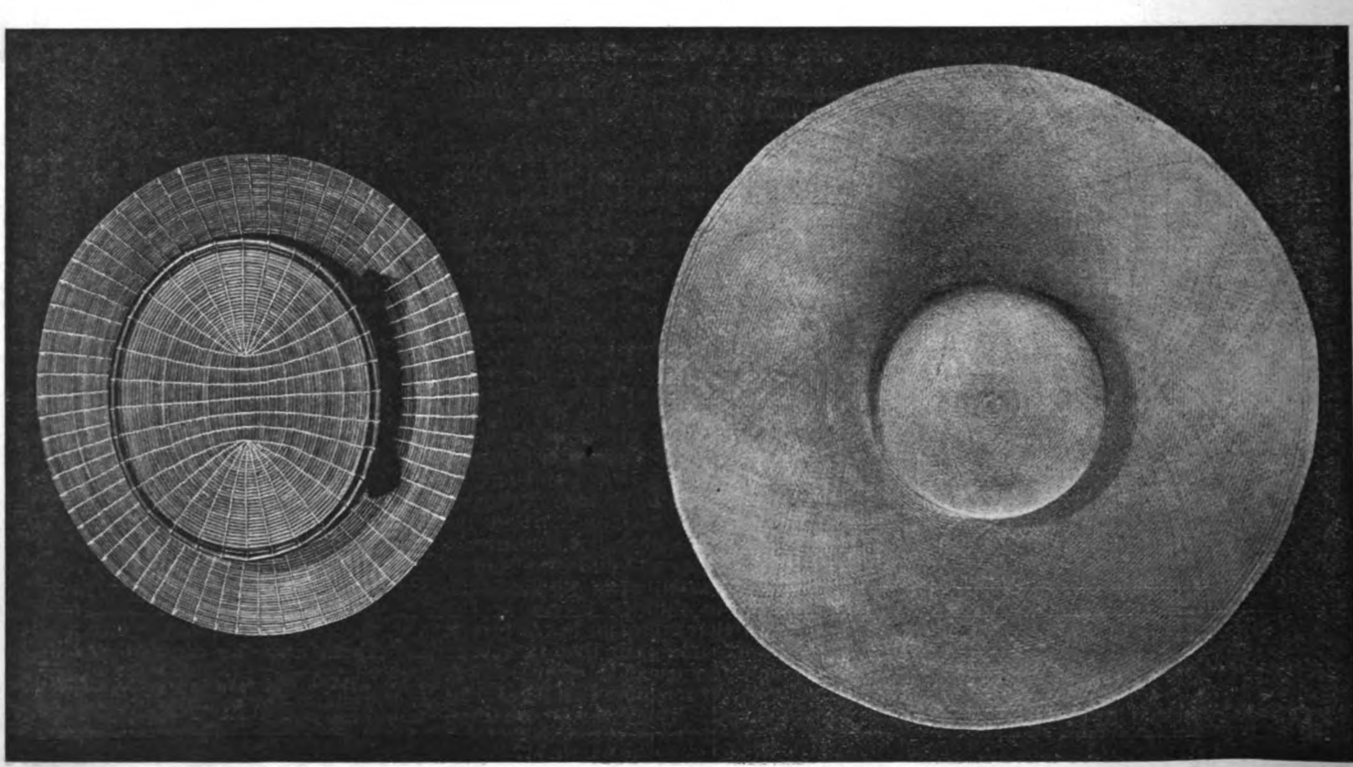
(1) In 1907 Java exported bamboo hats to the value of $211,000, United States currency, to the United States alone.



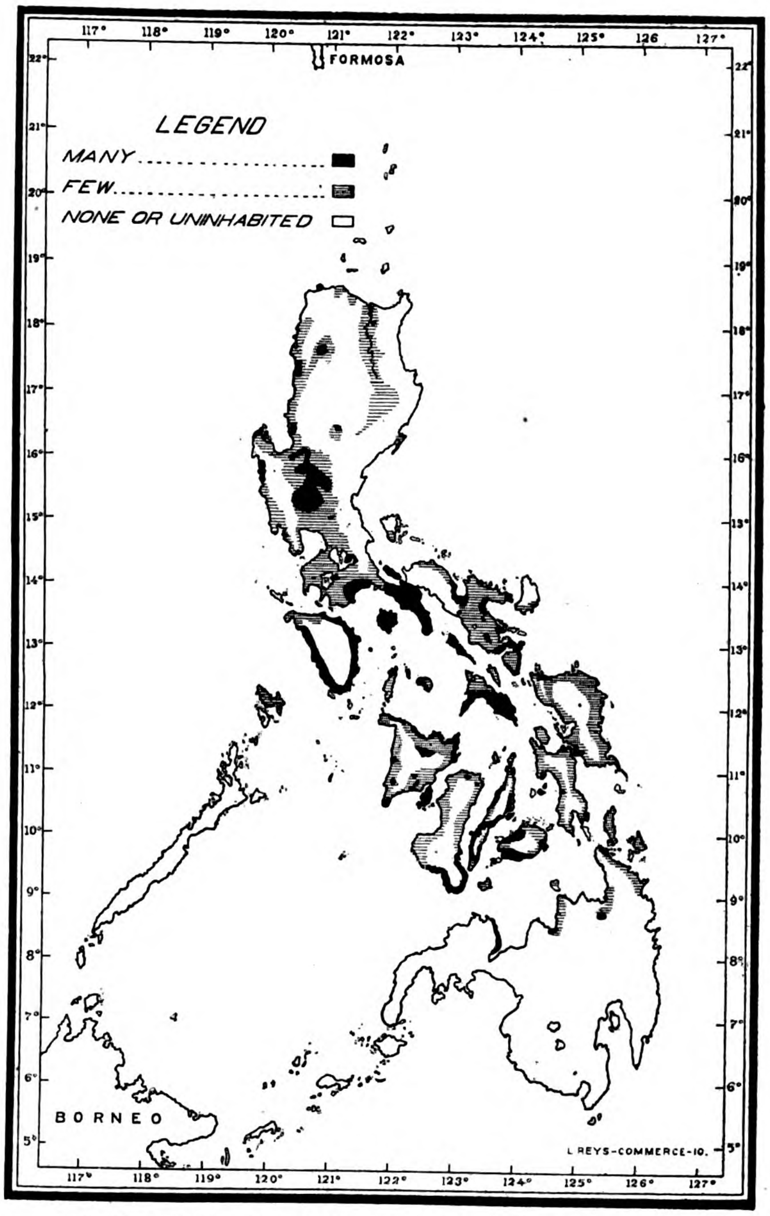
GRADES OF SABUTAN HATS AND THE SABUTAN COMB



PANDAN AND TIKUG HATS



VRTIVER AND BUNTAL-SAWALI HATS



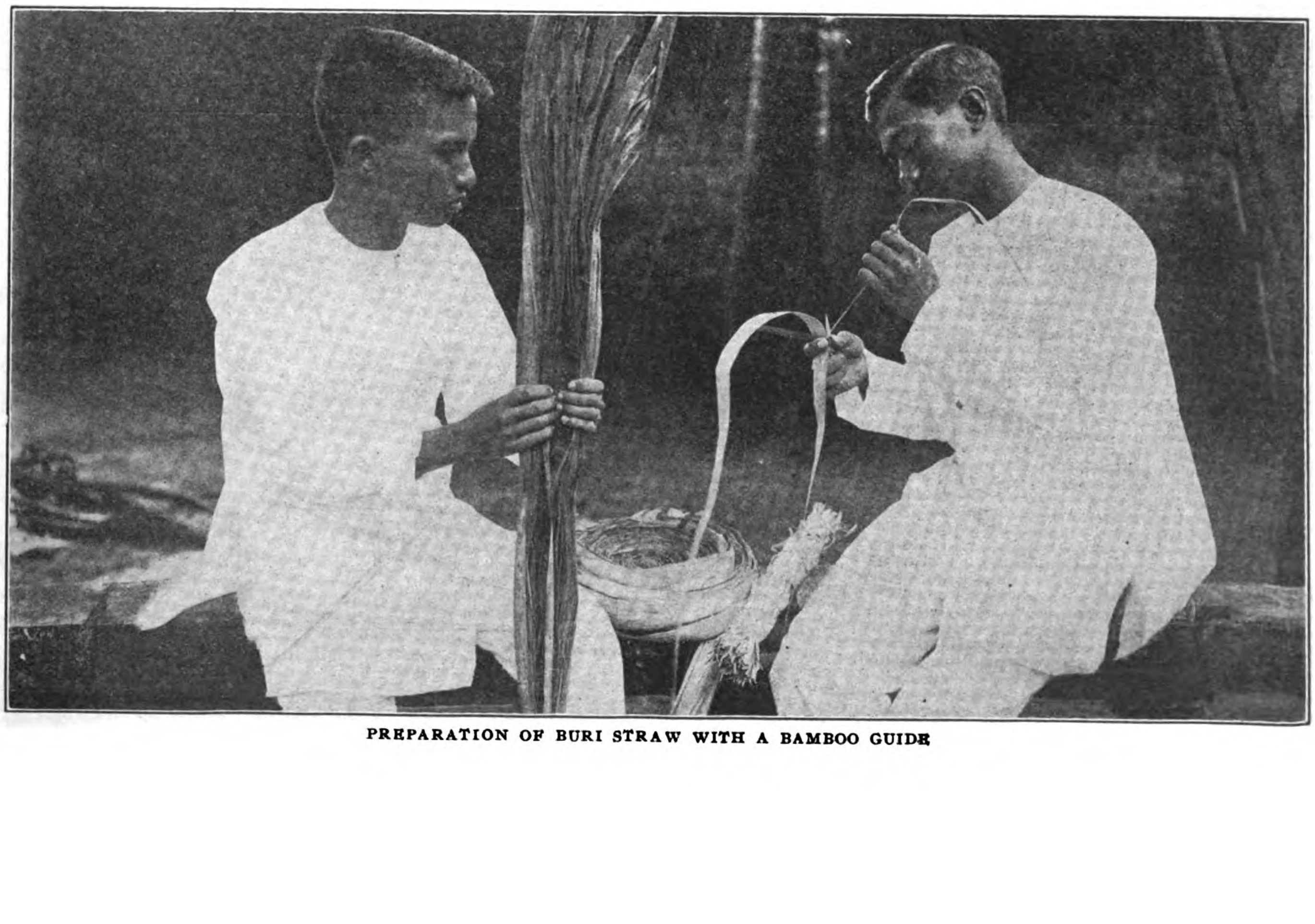

DISTRIBUTION OF THE BURI PALM IN THE PHILIPPINES

have led the bamboo hat to be the chief export hat of the Philippines and the one which can now be obtained in largest quantities. But the advisability of encouraging its production in the schools is doubtful. Although the bamboo hat has an established market, there are other materials which, though not equaling it in the above qualities, yet surpass it in other ways and produce hats which are stronger, not so easily damaged by hat pins, require less or no size in blocking, and give weavers higher wages on account of the demand for hats made from them."

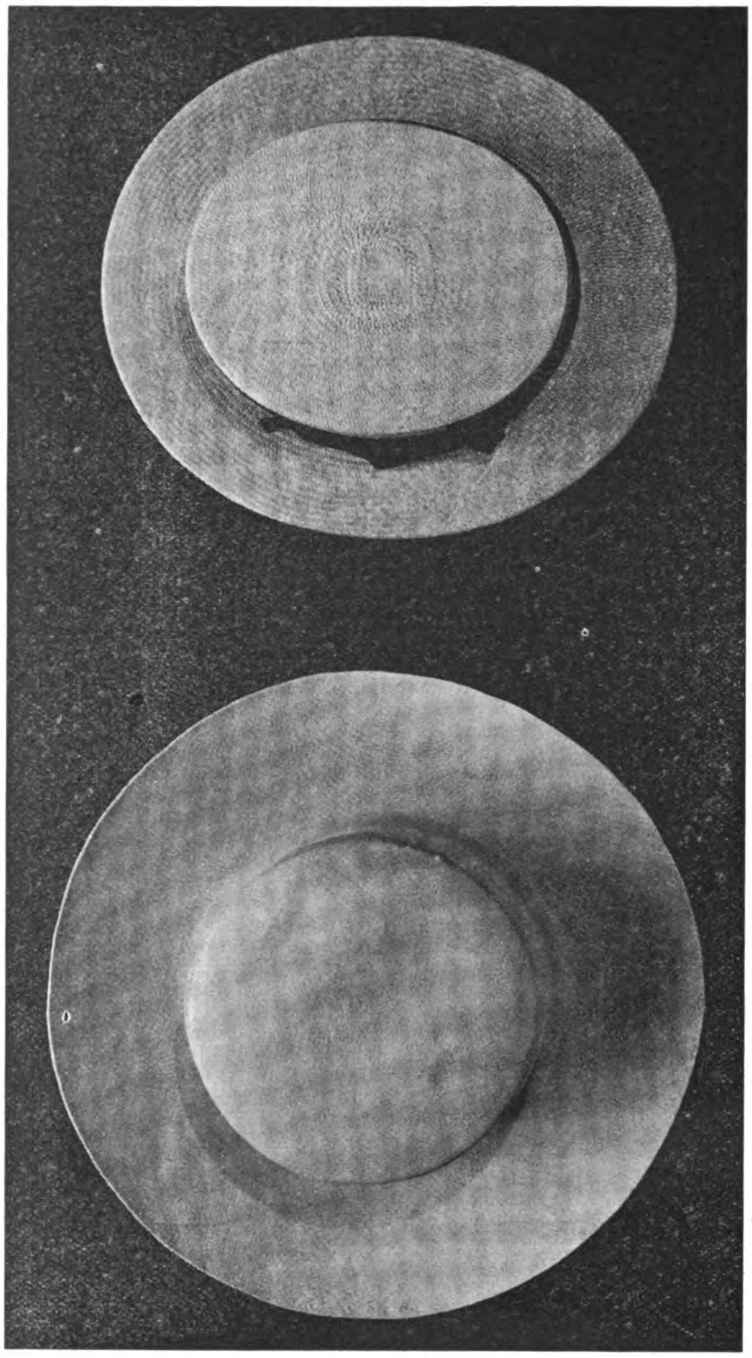
"*Buri-Palm Straws.—Uses of the Buri-Palm.*—The buri palm is one of the most valuable palms grown in the Philippines. In the variety of its useful products, it exceeds either the coconut palm or the nipa palm in local importance, though the value of the products of the coconut palm far exceeds the value of its products in pesos and centavos, and, when we consider the large amount of alcohol obtained from the nipa palm, the products of buri may also be of less monetary importance than those of the nipa. From the buri a juice is obtained which can be fermented into a wine, boiled down to sirup, or further boiled and crystallized into a palm sugar. The young fruit kernel is edible, being usually cooked in sugar, and the kernel of the matured fruit is so hard that it is used in the Philippines to form into rosary beads, and in Europe, whence it is exported from India, to make into buttons and like articles. The palm drops its leaves and produces a large bunch of fruit after reaching a very old age, variously estimated at between 25 and 40 years. It then dies. The trunk contains a large quantity of starch, often extracted and eaten. In fact, this starch is, with venison, the staple article of diet in the southern Tayabas peninsula outside of the towns of Katanawan and Mulanay. Buri sugar is almost exclusively eaten there, and what little money the people receive is earned by selling bundles of the dried unopened leaves and making mats, which are used in Manila to cover hemp bales, and bayones, which are shipped out for use as sugar containers.[1]

"Four valuable straws are produced from different parts of the palm. Raffia is the outside skin of the unopened leaf. It is dark yellow in color and is serviceable in making

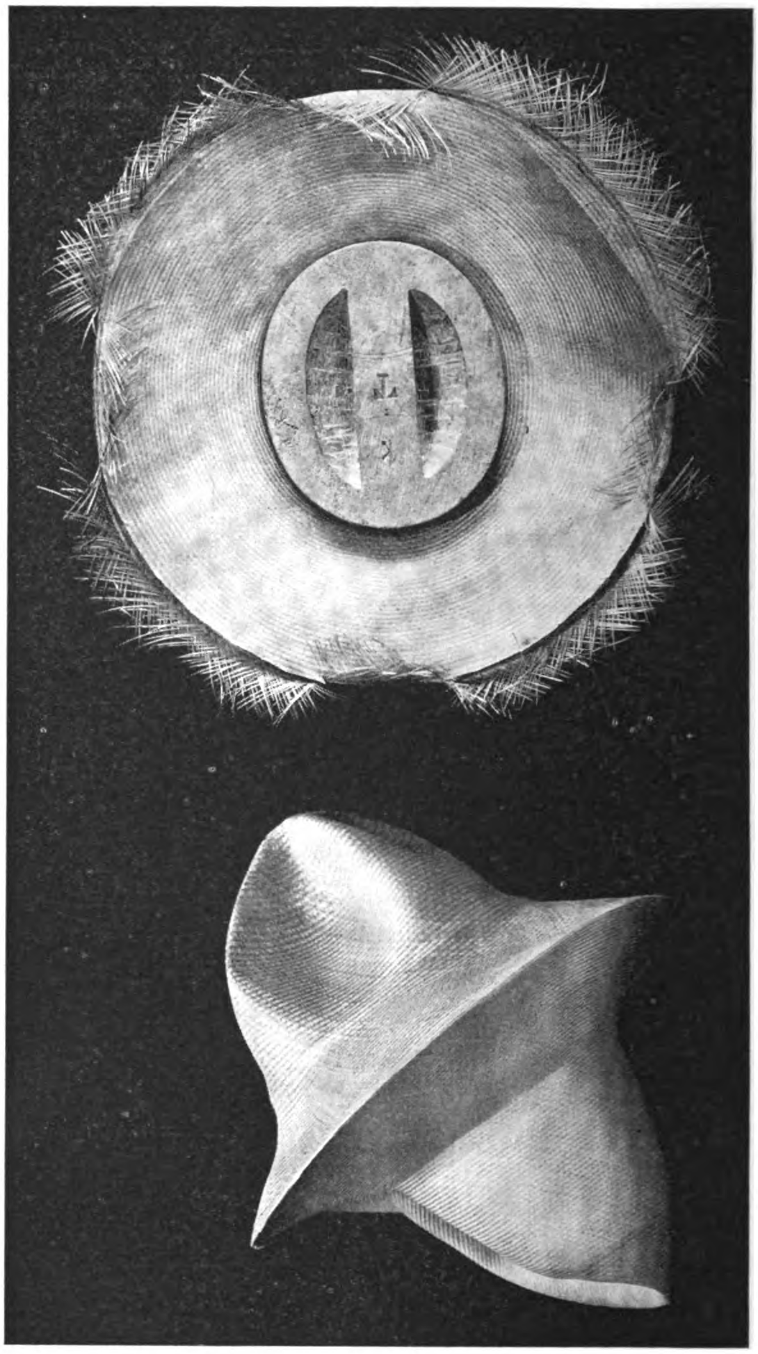
(1) Buri starch should not be confused with the starch (yuro) of the sugar palm (kaong; hibiok; irok; cabonegro palm), which is eaten among the Mangyans of Mindoro, and is also now being used by the Christian Filipinos of that island.



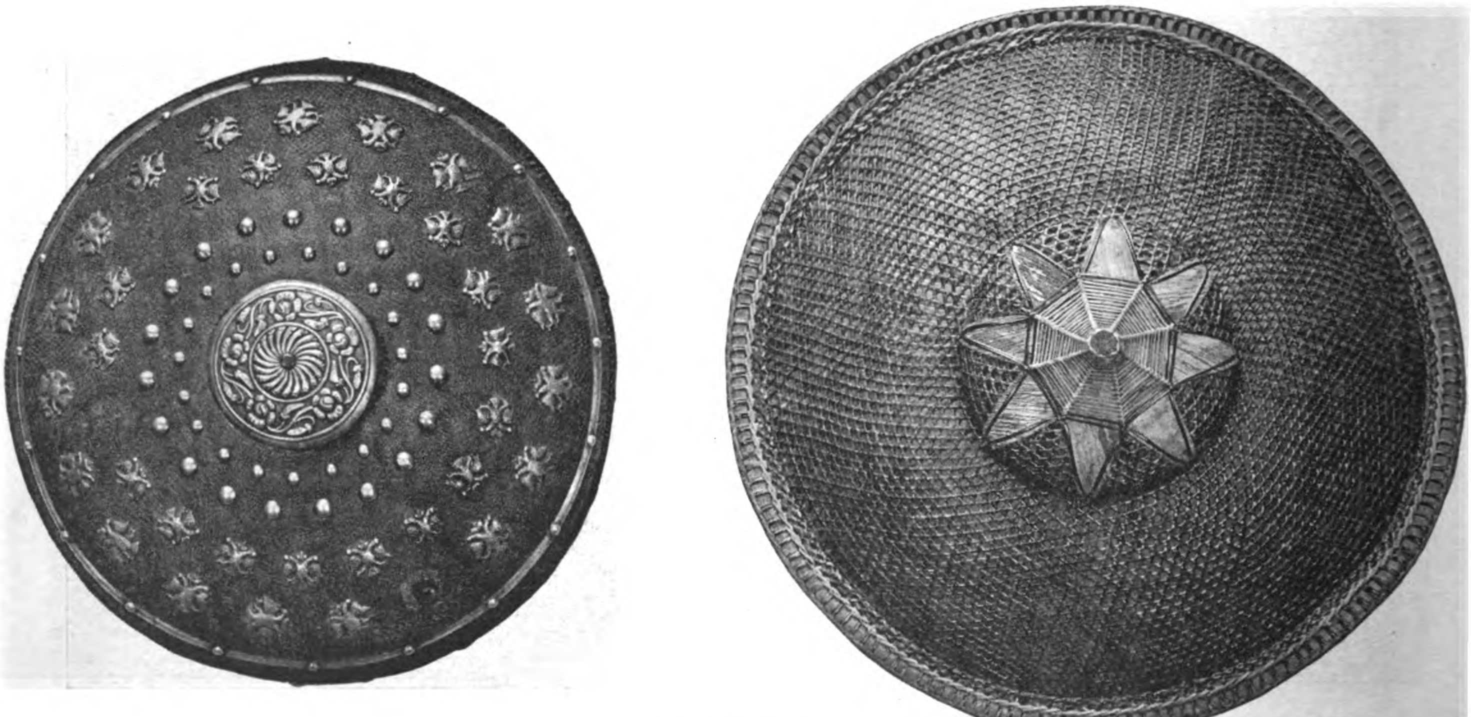
PREPARATION OF BURI STRAW WITH A BAMBOO GUIDE



GRADES OF KALASIAO HATS



THE DOUBLE HAT



SALAKOTS

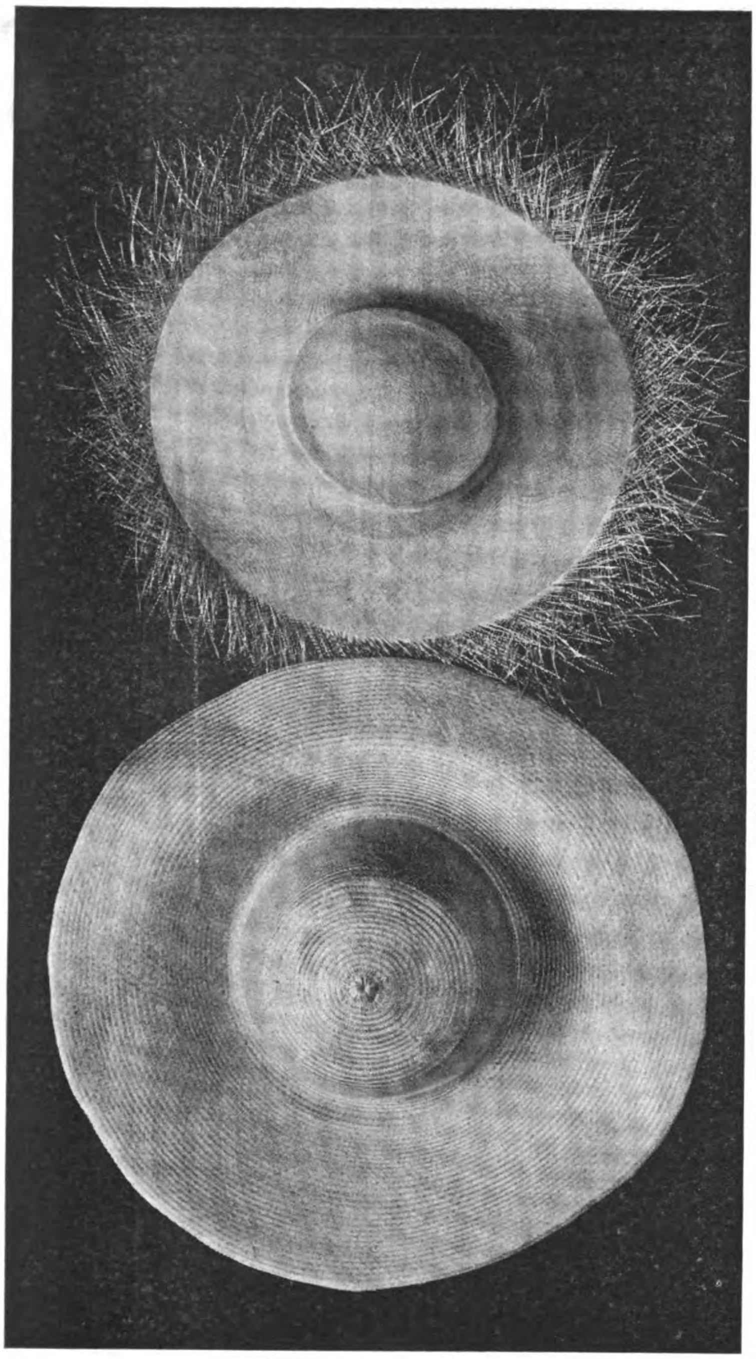
many pretty articles in the lower grades of schools. Raffia is also produced from the skins of several other plants as the common banana and abaka. Buri raffia seems to be the most satisfactory of those produced in the Philippines. The true raffia of commerce comes from Africa and Madagascar, and is used by nurserymen in tying up plants. It can also be used for weaving into a peculiar and rather pretty cloth. In Bohol buri raffia (saguran) is woven into colored floor mats, blankets, curtains, and cloth used to wrap tobacco. Such a cloth is said to be produced in Marinduque from buri raffia and is used for petates, sails, and even the clothes of the poor. The other three straws from the buri palm—namely, buri straw, Kalasiao straw, and buntal straw—are very important in hat making in the Philippines. They are taken up separately below.

"It is a peculiar fact that only one of the straws is usually produced in a given place, and the other parts are allowed to go to waste. In fact although the production of buri straw is widespread, buntal and Kalasiao straws are each commercially produced only in two districts. There are many large growths of buri palms which are now being used for no fiber production.

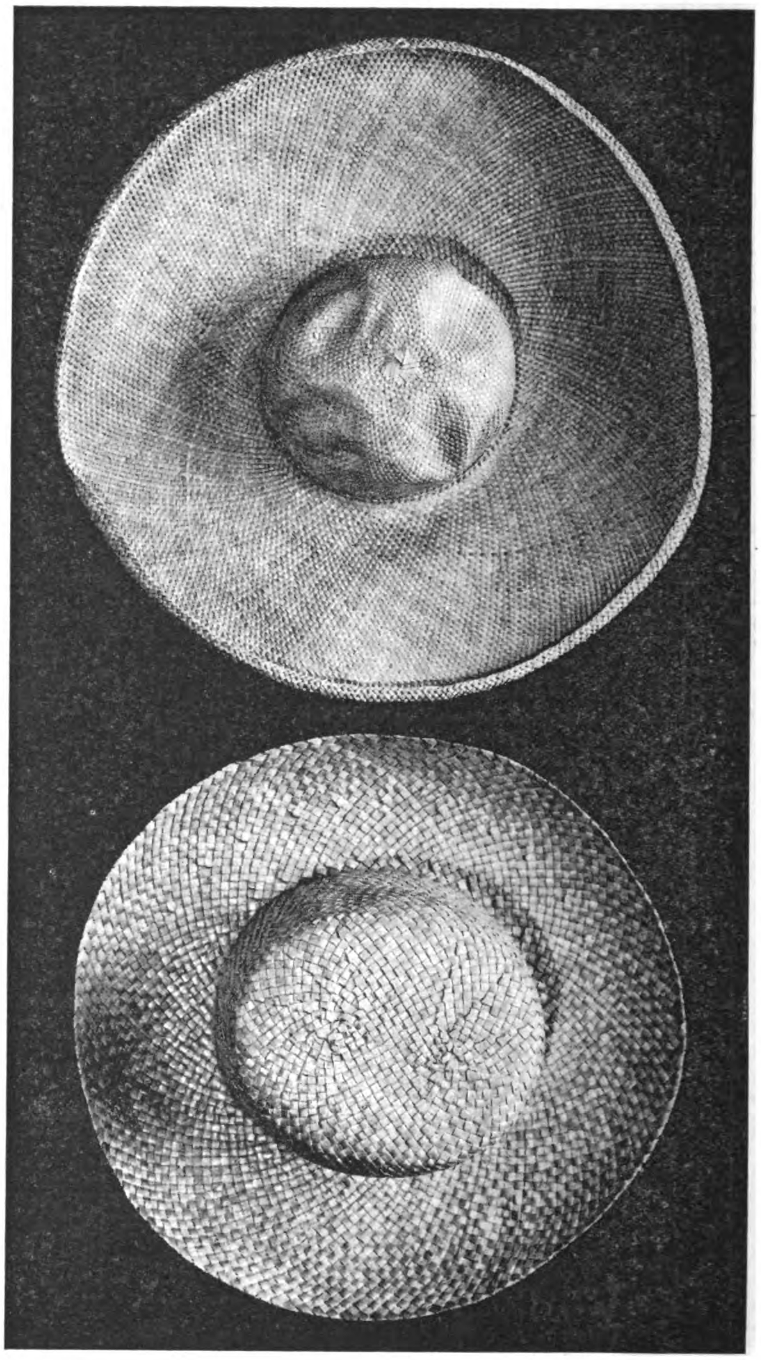
- The Buri Palm
  - Unopened leaf......
    - Blades...
      - Rope.
      - Raffia..
        - Cloth.
        - Fancy articles.
        - String.
      - Buri...
        - Buri hats.
        - Mats.
        - Bayones.
        - Baskets.
        - Fancy articles.
    - Midrib..
      - Kalasiao or Pototan hats.
      - Rope.
  - Opened leaf......
    - Leaf.....
      - Roofing and walls of houses.
      - Covering for tobacco bales.
      - Fans, etc.
      - Midribs for brooms.
    - Stem (petiole)
      - Buntal straw and hats.
      - Rope.
  - Sap (tubá)
    - Fermented drink (tubá).
    - Sirup.
    - Vinegar.
    - Alcohol.
    - Palm sugar.
  - Fruit......
    - Young fruit kernel is edible.
    - Old kernel
      - Rosary beads.
      - Buttons.
  - Trunk.....
    - Starch.
    - Bark for soles of sandals.
    - Wood for fences.

PANDAN

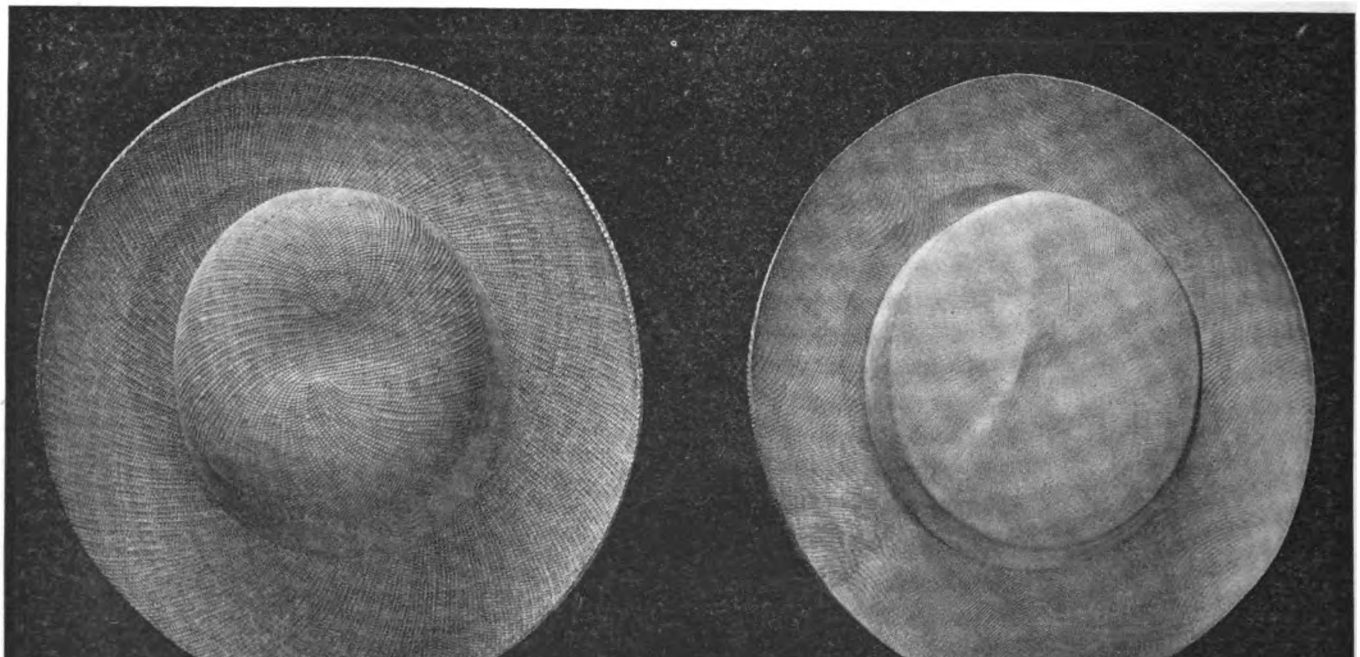
ROLLING BUNTAL STRAW



GRADES OF BAMBOO HATS



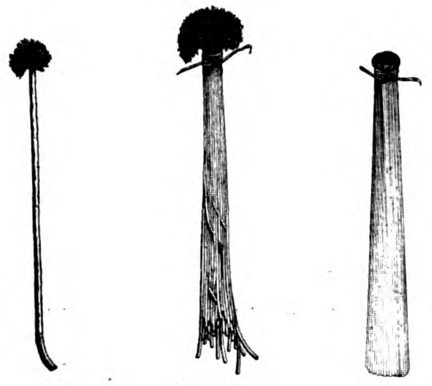
"ARAYAT" AND "MAUBAN" BURI HATS



GRADES OF BUNTAL HATS.

Among the hats made from the different parts of the buri-palm is the *buri hat* the straw for which is evolved from the unopened buri leaf. The process is different from the making of bamboo straw. The long leaf buds are cut just before they begin to open and spread in the sun. When dry the leaflets are cut from the midrib and smoothed by pounding them with a wooden maul. The buri is secured by rolling up the leaflets and boiling them in water to which equal parts of vinegar or sour fruits and leaves or alum have been added. After boiling half an hour and then spread in the sun. It is then washed and dried in the sun several times. Buri hats when finished sell from a few centavos for small children's hats to ₱3 for finer grades. The usual variety retails at forty centavos.

The *Kalasiao* or *Pototan* hat is produced from the *midribs* of the *unopened* buri-palm leaf. Mr. Miller describes the process and



TIKUG BUNCHED. SIZED.

THE PREPARATION OF TIKUG STRAW

refers to the hat evolved as "rather more 'nobby' than the bamboo hat" and retails at from ₱2.50 to ₱5 in Manila.

The *Buntal* or *Lukban* hat is extracted from the *leaf stem* (petiole) of the *opened buri leaf*. Mr. Miller describes the interesting process of producing the straw and points out that the export demand for the Buntal hat is greater than the supply. He believes that the buri straw industry could be greatly developed by more effective distribution of material from the large central areas now producing the bulk of buri-palm.

The *pandan straws* used in hat manufacture are produced from about fifty different varieties of the pandan plant, indigenous to every province of the archipelago. There are the pandan and the sabutan hats which are considered the best product of pandan and range in price from 20 centavos to ₱25.

*Rattan hats* are made from certain species of rattan and are the strongest and best made in the Philippines ranging in price from ₱8 into the hundreds of pesos. Their production is very limited.

The *Tikug hat* is made from the smooth, slender, jointless Tikug grass which grows in low ground. These hats are reported in demand for ladies' wear in Manila and there is some export.

There are a number of other minor hat materials including *nito*, a fern stem from which fine black hats are made but are expensive owing to difficulty in preparing the straw; a vegetable sponge called *patola* is used to sew into hats; rice straw braids are also sewn into hats and a number of other plants and grasses are available for this purpose. Indeed, the supply of material is practically inexhaustible.

*The Philippine Hat Trade.—Domestic.* Mr. Miller places the buri hat in the lead commercially in domestic trade. "It is cheap, fairly strong, and has a white color such as is demanded by Filipinos." Next in importance, he places the *pandan*, the *Kalasiao* following and the *Sabutan* fourth.

*Export trade.*—Of this trade Mr. Miller says: "The export trade can also be divided into two parts—the export of large lots of hats by wholesalers in Manila to wholesalers in Europe and the United States, and the small trade carried on by smaller dealers in Manila directly with retailers in the United States. Direct export to retailers has been made possible by free trade, and much of it is carried on through the mails. Wholesale export can easily be carried on in those hats, such as bamboo, buntal, and buri, which are produced

YOUNG SABUTAN PLANTS

in such large quantities that, while the profit on a single hat is small, the total profits on a large number of hats will amount to a great enough sum to justify their handling. These hats are produced cheaply enough here to allow several profits before coming to the hands of the retailers. But in trade direct with the retailer hats not produced in such large quantities can be handled, since the total profit on each hat is divided among fewer middlemen and the gain on each hat to the Manila exporter is larger. In the same way hats which are rather expensive from the weaver are also adapted to export trade direct with the retailer, since, not so many profits being obtained, the hat can be delivered to the consumer at a price which he is willing to pay. Besides the wholesale hats, Kalasiao, sabutan, rattan, and buntal-sawali hats are now chiefly adapted to export trade direct to the retailer. Many persons are entering this trade and there are excellent openings for young Filipinos to become not only hat brokers but also exporters direct to the retailers.

*Philippine hat exports during the fiscal years ended June 30, 1908, 1909, and 1910.*

[Values are stated in United States currency.]

| Country. | 1907-8. Number | 1907-8. Value | 1908-9. Number | 1908-9. Value | 1909-10. Number | 1909-10. Value |
|---|---|---|---|---|---|---|
| United States.. | 63,475 | $21,928 | 32,871 | $23,411 | 189,180 | $122,313 |
| France...... | 211,567 | 88,856 | 239,167 | 83,108 | 289,167 | 124,154 |
| All other countries. | 197,345 | 59,103 | 210,957 | 61,963 | 143,028 | 33,882 |
| Grand total.... | 472,387 | 169,887 | 482,995 | 168,482 | 621,875 | 280,349 |

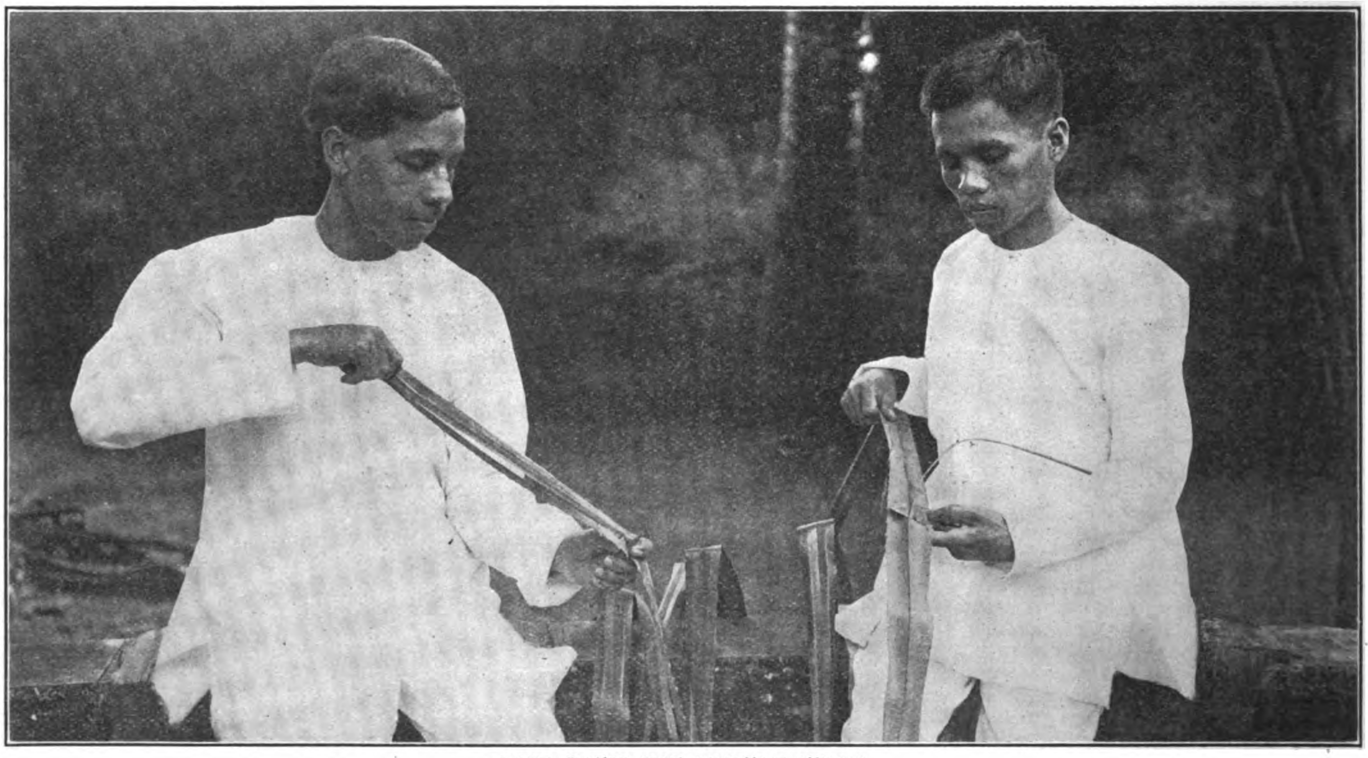
"The export of Philippine hats as reported to the Insular Collector of Customs by exporters shows only three headings—namely, bamboo, buri, and all other. Most of the buntal hats and many of the buri are undoubtedly reported under bamboo hats, hence it is impossible to determine the relative amounts of the chief export hats of the Philippines sent abroad. The statistics are, however, valuable for the purpose of determining the increase in the trade and the relative amounts taken by different countries. Previous to free trade very few hats were sent directly to the United States, most of them going via Paris. In the year 1909-10, however, the trade direct to the United States increased more than five times over the same trade in the year 1908-9, thus accounting very largely for the total increase in hat trade of the Philippines, which in the year 1909-10 rose to over 70 per cent more than the trade of 1908-9. France, it will be noted, continues to be the chief taker of Philippine hats, though there seems to be a good chance that the United States will outdistance her in the records of the present year. It will be noted that the average price of hats exported to the United States is about ₱1.30, while the average price of those exported to France is about 86 centavos, indicating that the United States is at present the best market for the finer hats. Exporters seem to differ in opinion as to whether Europe or the United States will in the future be the best fine-hat market, but these statistics would seem to indicate that the largest demand will come from America. The fact should be noticed also that the average price of hats exported in 1908-9 was about 70 centavos, while the average price in the year 1909-10 was about 90 centavos, seemingly indicating either larger export of finer hats or a rise in prices.

"Bamboo and buntal hats are the largest export in point of value. While many thousands of buri hats were exported, their total value is very small in comparison with the other two, and they largely account for the small export price per hat. A small number of Kalasiao, rattan, and other hats is also included, but they are insignificant compared with bamboo and buntal. In fact, according to the opinion of most persons, particularly exporters interested in the hat busines, bamboo and buntal hats will continue the chief hat export of the Philippines, with buntal growing steadily in relative importance. The demand for bamboo hats is liable to fluctuate, since they are more of a fancy article than are buntal and, being more used for women's wear, are more influenced by everchanging fashions.

*Summary.*—It is the consensus of opinion among hat exporters and other persons largely interested in Philippine hats that the buntal hat is, of the different Philippine products, the hat to be encouraged in manufacture for export. The demand for it is greater than the present supply, and seems to be increasing. Present production could be increased manyfold without serious decrease in the price. But not only should the production be stimulated in amount but the quality of the hats should also be improved so that by better weaving more of the finer-grade hats shall be produced. The raw material for the production of buntal straw exists in large quantities, and the straw can easily be distributed to the producing towns. It would seem a good policy, there fore, toencourage the production of this hat not only in towns where no commercial hat production now exists, but also in towns where less salable hats are now made. Buntal-sawali has large possibilities, and the hat may become important in both domestic and foreign trade.

"While sabutan does not have the export importance before it that buntal has, yet its great value in domestic trade and its possible importance in export trade direct to the retailer make it a hat the production of which should be encouraged and which may some time be the foremost hat produced in the Islands. Since the plant can be grown in the school grounds and the straw is easily

EXTRACTING BUNTAL FIBER



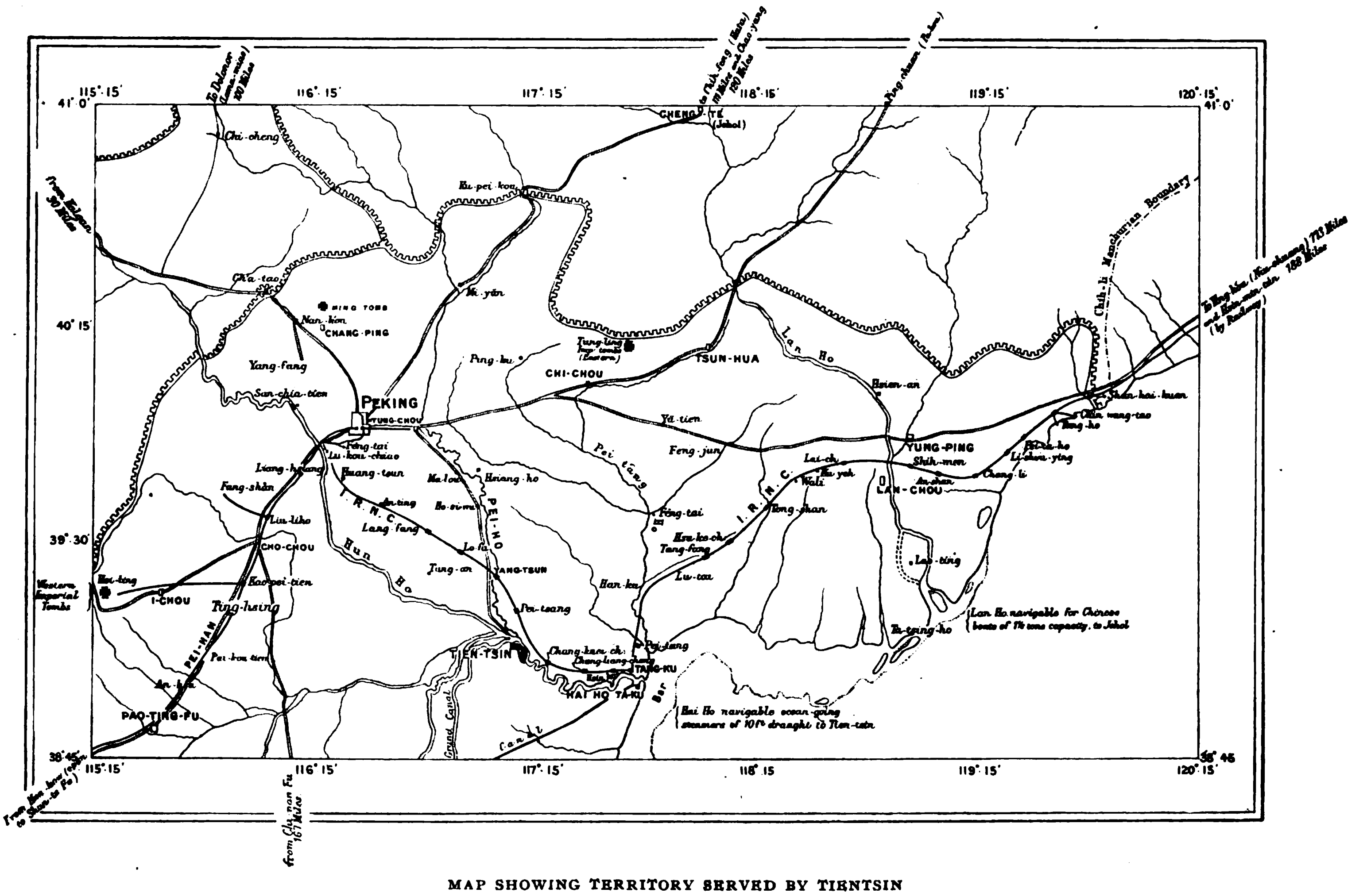
PREPARATIO NOF SABUTAN STRAW

# THE TRADE OF TIENTSIN

Trade reports for the year 1909 show an increase both in exports and imports over the previous year but more marked in the latter. Foreign imports aggregated Hk. Tls. 48,332,463, as against Tls. 39,062,456 in 1908, an increase of Tls. 9,270,000; native imports, Tls. 29,100,000, as against Tls. 26,000 000, an increase of Tls. 3,000 000. Exports for 1909 aggregated Tls. 31,089,081, an increase of approximately Tls. 10,000 000. The total aggregate of trade was approximately Tls. 22,000,000 greater than in 1908 and Tls. 5,500,000 over the year 1907. Compared with 1907 there is a falling off of foreign import trade to the value of Tls. 16,000,000 and an increase in native importations of approximately Tls. 10,000,000, while the export trade has increased during the two years by Tls. 12,500,000. The above figures would indicate a recovery from the foreign trade depression which marked the year 1908 and prospect for a return to its former brisk condition. The status of the Chinese merchants' indebtedness to foreign firms and the accumulation of debased silver in the banks have been largely responsible for the disturbance of this market, but a solution to both these problems has been reached and the year 1910 gives evidence of more activity. Noted in the returns was marked evidence during the year of a disposition to purchase in Shanghai in preference to buying direct from the country of origin. This was especially noted in the grey and white shirtings of British and American manufacture and especially of the latter. Japanese shirtings were imported direct. Import of American shirtings and drills was double that of the previous year and British and American sheetings show a slight increase, the Japanese sheetings being more than double that of the previous year. English grey sheetings and white shirtings showed a marked increase. Printed cotton demand declined and Indian and Japanese cotton yard yarns showed a marked increase.

*The Export Trade.*—It will be seen that this trade is increasing very rapidly and gives promise of continued expansion. Tientsin is still recognized as the great northern port of China. It is not only the gateway to the capital, but the outlet for the trade of the vast territories of Mongolia and north western China. Its only drawback is the fact that it is icebound for approximately four months

*Compiled in Intelligence Branch North China Command, December 1903.*




MAP SHOWING TERRITORY SERVED BY TIENTSIN

prepared, the raw material for hats need cost nothing. Other straws, such as buri, are often difficult to obtain.

"The present production of bamboo hats seems about to meet the demand in the long run, a proposition which is even more true of Kalasiao hats, and it is therefore doubtful whether their increased production should be encouraged. The natural spread of these two industries will most likely meet any growth in the demand for their products.

"Buri and pandan hats are of large importance in the domestic trade and will most likely continue to be. Their production should be encouraged to meet home demand and also to meet a smaller demand in the export trade.

"Some of the minor hats, such as tikug, may prove of great importance with time, and their production should be fostered in present producing regions and where raw material can be obtained.

"As to the manner in which hat weaving should be taught in the schools, it would appear that the fabrication of buri hats should be taught first, since the straw is easy to manipulate in the 'over-and-under' weave. Pandan and tikug are in the next class in this respect. This instruction should be followed by the weaving of buntal hats in the "over-and-under" weave, which is often found difficult at first; then sabutan, with double straws, in the "sawali" weave; and finally, buntal, in the "sawali" weave. Thus students will be taught the weaves and the manipulation of the straw from the most simple and easiest weave and most pliable straw to the most difficult weave and stiffest material. While there are distinct markets for fine and coarse hats, fine and careful weaving only should be encouraged, since, on account of the novices and aged weavers, the production of coarse hats will take care of itself."

in the year. During these months it is not improbable that the advantages of the port of Ch'in-wang Tao as an ice free port will appeal more and more to Tientsin importers. This port is the result of the enterprise of the Chinese Engineering Mining Company, the output of whose mines forms a large part of the present export. This desirable port has been referred to as the probable rival of Tientsin, but so far, instead of proving an injury, it has proved a benefit. With the development of the railways tapping the northern and western territories and the advantages of an ice free port at Ch'in-wang Tao, the disposition to make the ice free port the distributing center for imports and the outlet for the products of that large territory now served by Tientsin may in time appeal very strongly to the merchants.

Tientsin will be obliged to make especial effort to keep pace with the rapid development of new lines of railways especially

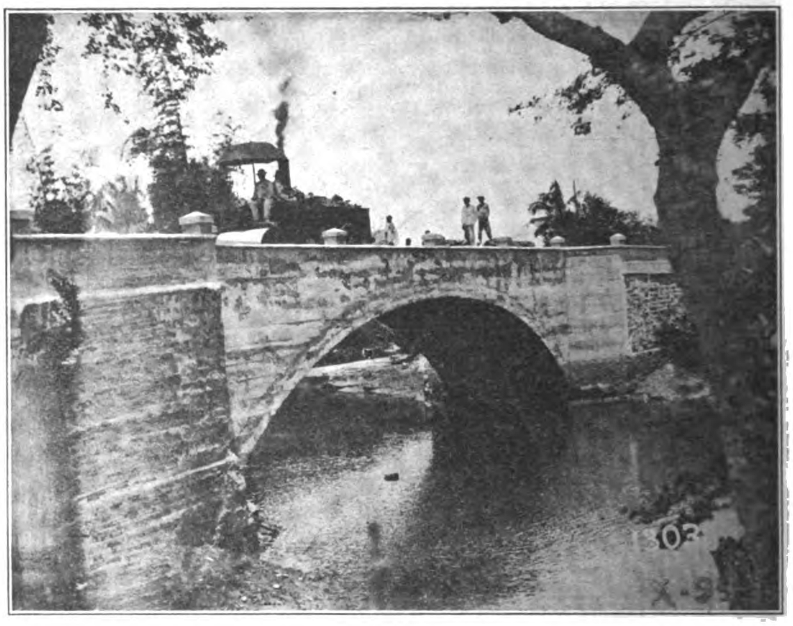
# PHILIPPINE PUBLIC WORKS

The annual report of the Hon. Charles B. Elliott, Secretary of Commerce and Police, Philippine Islands, for the fiscal year ended June 30, 1910, shows a total expenditure by the Bureau of Public Works of ₱7,500,000, covering the construction of 363 kilometers of first class roads, providing caminero maintenance for 914.5 kilometers besides caring for 2,000 kilometers of second class roads. The bridge construction included 500 structures and a large number of pipe culverts. Of the total amount expended ₱6,000,000 covered the cost of the road construction and maintenance.

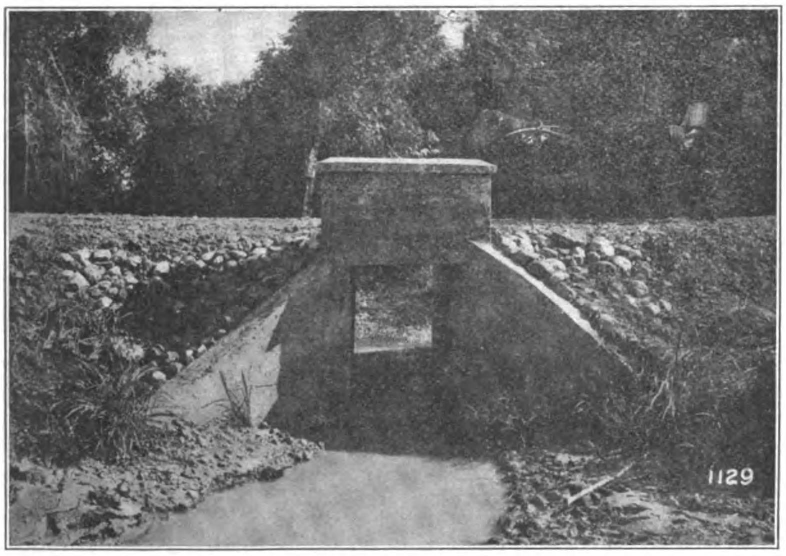
*Legislation During the Year.*—Besides the appropriation of ₱1,500,000 for general road and bridge work, ₱300,000 were added for the construction of interprovincial roads for the purpose of connecting up the many provincial thoroughfares and unify a road system through the islands.

*Unit Cost Accounting System.*—This system was introduced in the statistical division and extended to cover 75 important road and bridge construction projects making about 1,100 kilometers of road upon which the caminero system is in force and it is proposed to extend it to cover every department of activity of the bureau. This will include the valuation and revaluation of important roads and bridges and other property. As an instance of the result of the work up to date, there were 1110 kilometers at original valuation and 714 kilometers revalued during the year bringing the total taken under consideration, ₱8,783,600, while the bridge valuation including 2,821 bridges and culverts with a length of 12,584 meters amounted to ₱3,531,000 or a grand total revaluation of ₱12,314,600.

*The Provincial Division.*—The activity of this important division is demonstrated by the increased construction compared with all previous years. For instance in the development of first class road construction there were 395 kilometers completed prior to June 30, 1908. At the end of the fiscal year 1909 the total had reached 551 kilometers, while at the end of the fiscal year 1910 the total reached 914.57 kilometers, an increase of 199 kilometers over the previous year.



MANDALAGAN BRIDGE, PROVINCE OF OCCIDENTAL NEGROS, P. I.
(Clear span, 18 meters. Reenforced concrete, using old Spanish adobe stone retaining walls)




TYPE OF REENFORCED-CONCRETE BOX CULVERT, SAN MIGUEL-SIBUL SPRINGS ROAD, PROVINCE OF BULACAN, P. I.

*Division of Engineering Design.*—During the year this division prepared designs and detail plans with estimates covering 15 steel bridges having a total length of 479 meters and an estimated cost of ₱430,000; 18 wooden structures, total length 848 meters, cost ₱149,300 and plans for 82 reinforced concrete bridges having a total length of 2,311 meters and an estimated cost of ₱1,097,850. Besides, bids were advertised for 60 structures and the division inspected over 110,000 kilos of structural steel. There are under construction 69 bridges and bids are being advertised for, almost every week, covering new projects.

*Road Prizes.*—The awarding of prizes among the provinces has resulted in increased interest in the maintenance of the provincial roads. The result of the competition for the year was an award of ₱10,000 to the province of Pangasinan for the best maintained and most complete system of first class roads and the reward of ₱10,000 for the greatest provincial expenditure for roads and bridges proportionate to the entire revenue went to the province of Laguna and the prize of ₱10,000 for the best kept second class system of roads was divided equally between Ilocos Norte and Ilocos Sur.

The ₱5,000 provided for prizes for the individual camineros has not yet been distributed, but there has been keen competition and a marked improvement on the roads under this system.

*Building Construction.*—The total number of projects for which plans were designed was 157 with an estimated cost of ₱7,310,459, of which number, according to the report of the Consulting Architect, 33, costing ₱2,029,-295, were brought to completion and 56 projects costing ₱1,694,664 are now in course of construction, while plans are being prepared or considered to cover 68 projects repre-

---

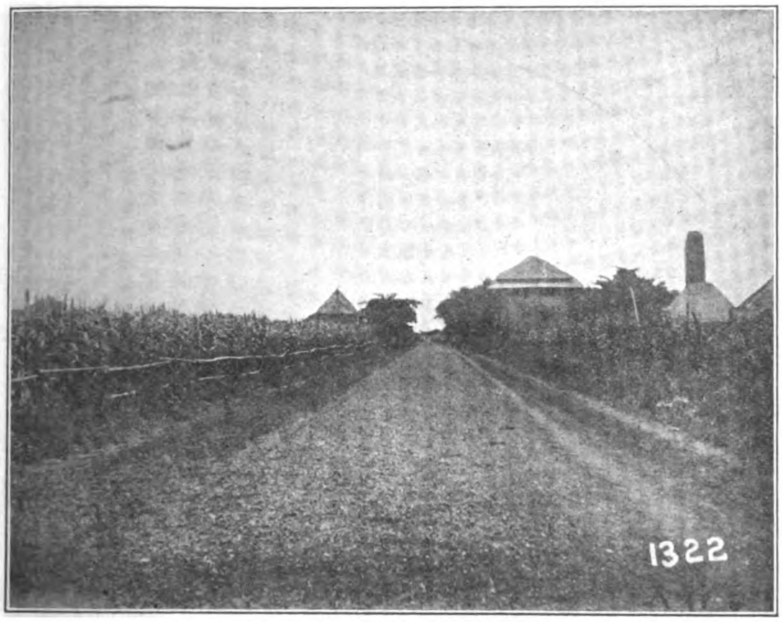
designed to exclude her to the advantage of Hankow, Tsingtau, Verkneudinsk, with respect to her distributing trade in Chihli, Shanhsi, Shangtung and Honan and her source of supply in Mongolia, Fengtien, Kansu, etc., which she has largely controlled in the past.

The battle is now on between the Russians and the Chinese with regard to the trade of Mongolia, especially the Northern section in gold, furs and skins. The Peking-Kalgan Railway with its proposed extensions may save much of this trade unless it is diverted the other centers by more convenient markets. Hankow is making every effort to capture the Honan and tributary trade, while Tsingtau is in a fair way to secure her share of Shangtung trade through the German railways. The K'aifeng-Hsian line with its extension to Lan-chou would tend to carry the wool trade of Shanhsi to Hankow. The Chengting-T'aiyuan railway, however, may save a large portion of this trade to Tientsin.

At the same time Tientsin is becoming a large railway center and will have an advantage as a distributing center over Hankow and, indeed, any of her immediate rivals provided the merchants of Tientsin take the precaution to guard against traffic combinations on the part of her rivals.

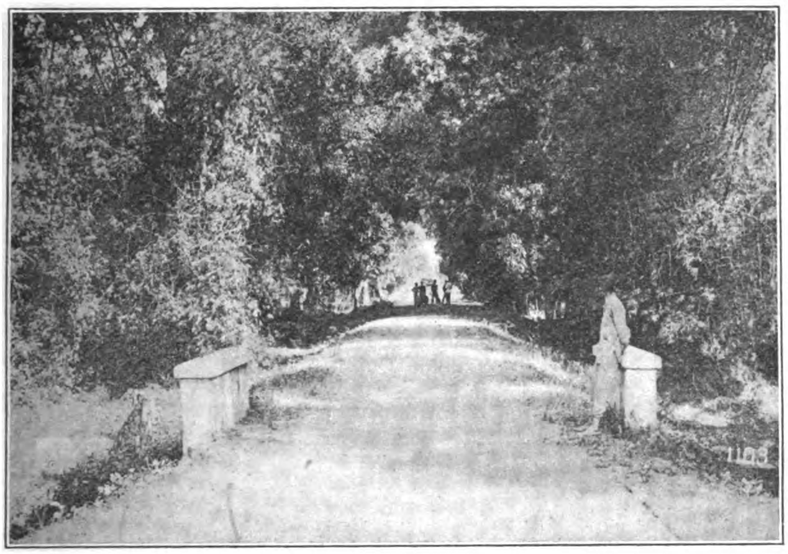
As an offset to the probability of railway development interfering with her prosperity Tientsin may decide to develop the extended system of waterways in Chihli which would provide cheaper means of transportation to different points throughout that province. Tientsin's future, however, may not be considered precarious for the reason that she must always be recognized as the gateway to the capital and receive more assistance and consideration from the Imperial Government than would otherwise be her portion. Then it must be recognized that as the country is opened up by modern railway systems the increased productiveness followed by the establishment of the many different industries throughout the country the trade maps must be revised and the zones of activity relocated. It is only by keeping in close touch with these changes in the development of trade in China that Tientsin or any other trade center may hope to hold its own.

The next decade will probably decide many questions relative to China's future, but no feature involved will prove more absorbing than the keen competition among the leading commercial centers for supremacy in trade, involving the economic distribution of goods throughout the empire and the direction of the movement of products for export through the most attractive avenues to the more favorable markets. In all this Tientsin should secure her share.



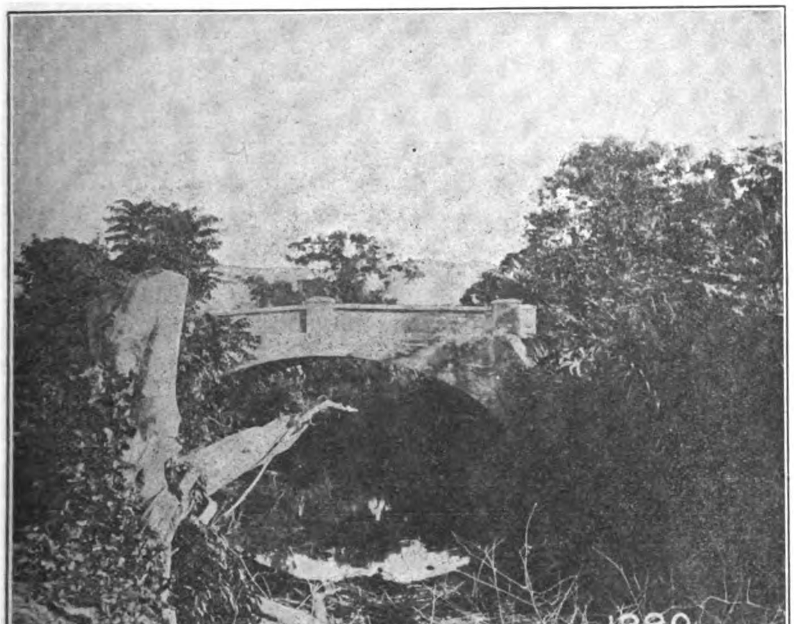

JARO-ZARRAGA ROAD, PROVINCE OF ILOILO, P. I., SHOWING SECTION OF COMPLETED ROADBED OF SAND-CLAY FOUNDATION WITH 10 CENTIMETERS OF FINE RIVER GRAVEL SURFACING

BREAKING ROCK BY HAND ON THE TABACO-LIGAO ROAD, PROVINCE OF ALBAY, P. I., INAUGURATED TO RELIEVE DISTRESS CAUSED BY LOW PRICE OF HEMP IN THAT PROVINCE



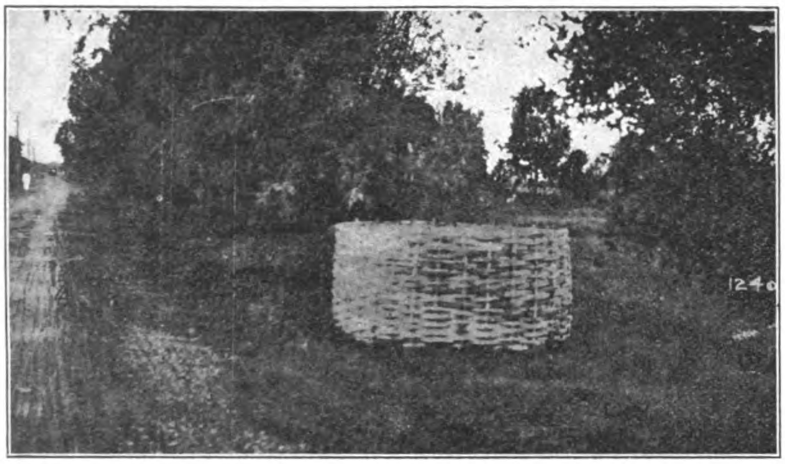
SAN MIGUEL-SIBUL SPRINGS ROAD, PROVINCE OF BULACAN, P. I., COMPLETED ROADWAY

SAN MIGUEL-SIBUL SPRINGS ROAD, PROVINCE OF BULACAN, P. I., COMPLETED ROADWAY



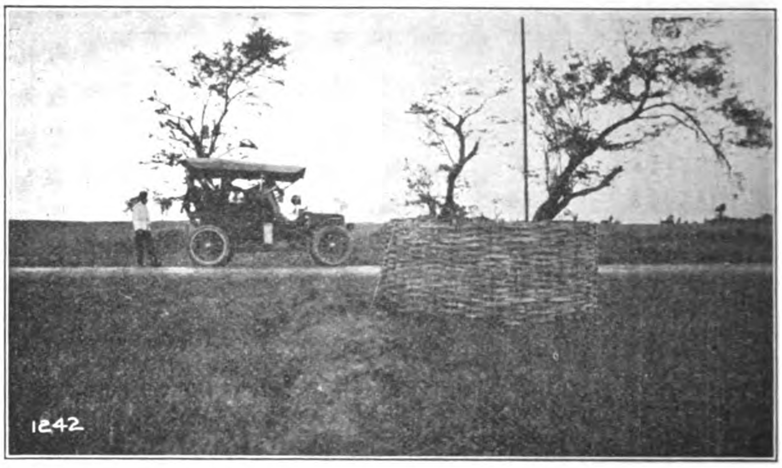

PALAMPAS BRIDGE, PROVINCE OF OCCIDENTAL NEGROS, P. I.
(Reenforced concrete, span of 13.7 meters. Contract price, ₱2,726.)

IRIGA-BUHI ROAD, PROVINCE OF ALBAY, P. I., SHOWING COMPLETED MACADAM COURSE




PASAY-ZAPOTE BRIDGE ROAD, PROVINCE OF RIZAL, P. I., SHOWING BAMBOO MAINTENANCE DEPOSITORY FOR SURFACING AND REPAIR MATERIAL FOR USE OF CAMINEROS

(Capacity, 10 cubic meters )

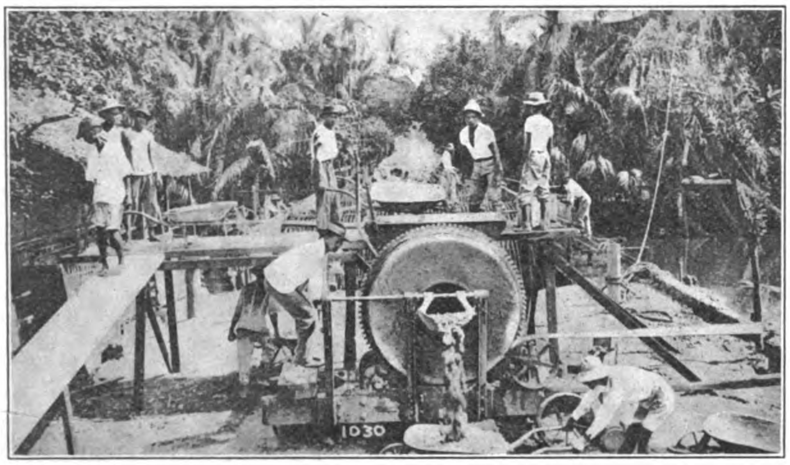



PASAY-ZAPOTE BRIDGE ROAD, PROVINCE OF RIZAL, P. I., SHOWING BAMBOO MAINTENANCE DEPOSITORY FOR SURFACING AND REPAIR MATERIAL FOR USE OF CAMINEROS

PASAY-ZAPOTE BRIDGE ROAD, PROVINCE OF RIZAL, P. I., SHOWING COMPLETED ROADWAY

CARABAO GRAVEL TRAIN, PROVINCE OF BATAAN, P. I.

(Carabao travels at the rate of about 3 kilometers per hour.)



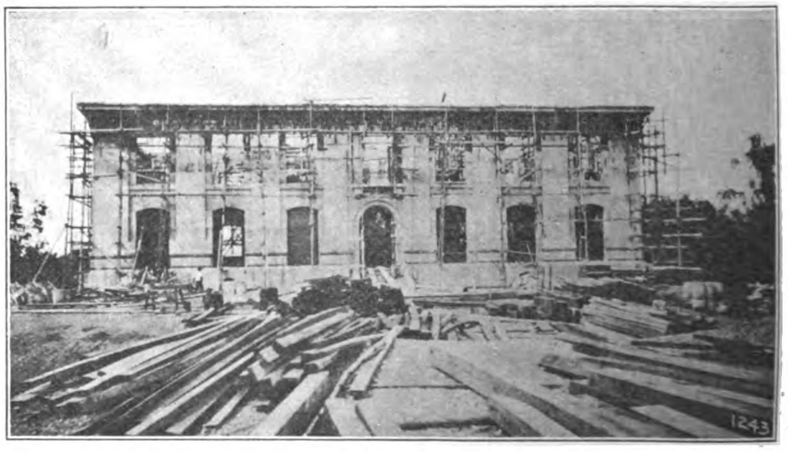

CONCRETE MIXER IN OPERATION FOR BRIDGE CONSTRUCTION ON ROAD THROUGH NIPA SWAMPS, PROVINCE OF PANGASINAN, P. I.

CONSTRUCTION ANULID BRIDGE, PROVINCE OF PANGASINAN, P. I.

(Two spans, 7.15 meters each.)

RETAINING WALLS OF APPROACH TO THE OLD BANAO BRIDGE, PROVINCE OF ALBAY

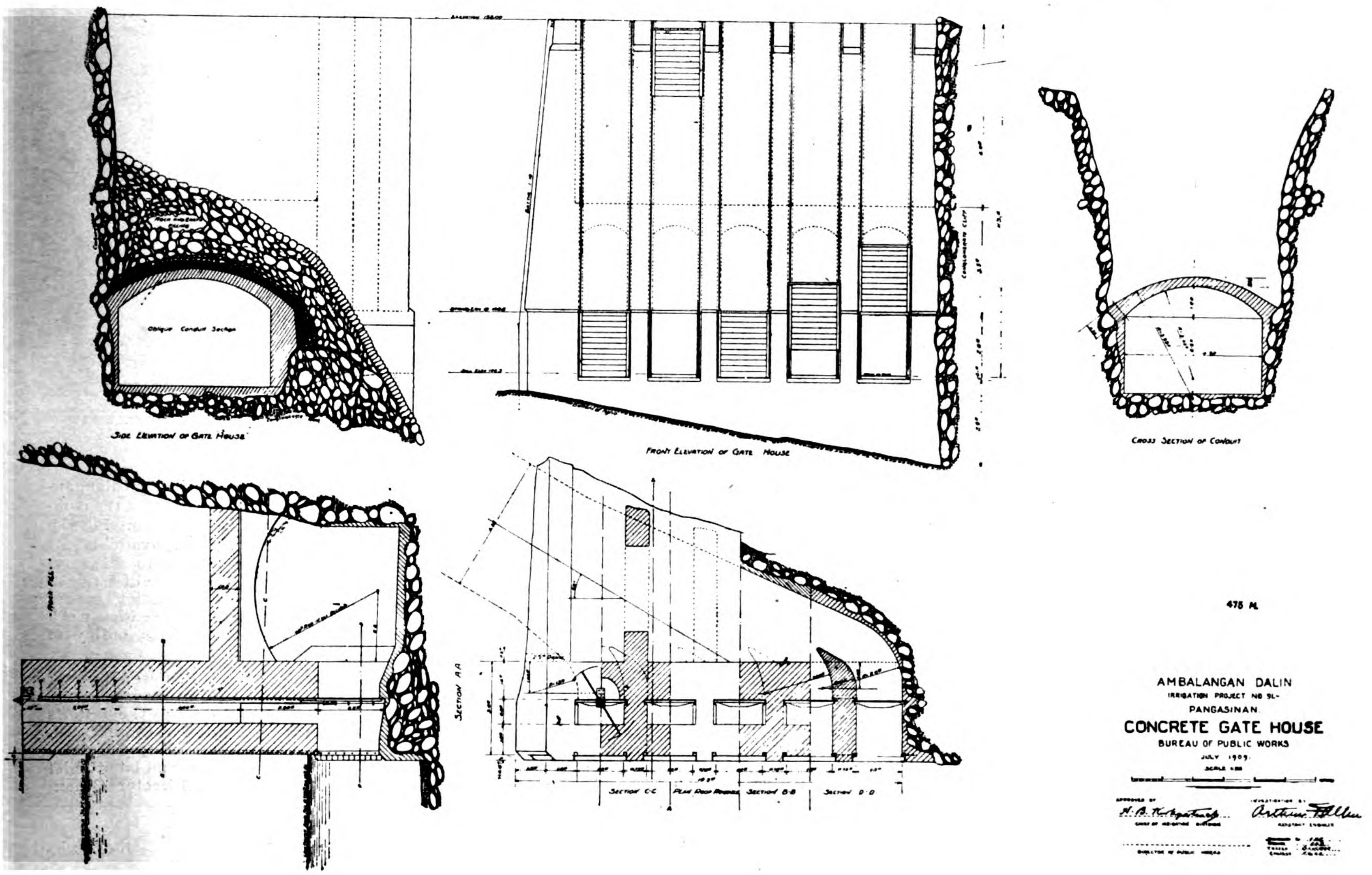
(Bridge destroyed by earthquake, and now replaced by one of reenforced concrete.)




PROVINCIAL BUILDING, PASIG, RIZAL, P. I., UNDER CONSTRUCTION

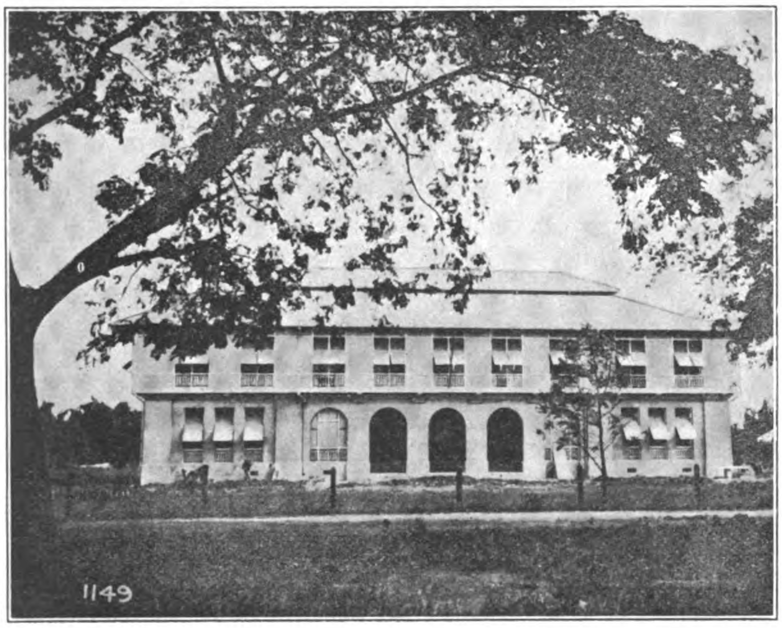
(Reenforced concrete throughout. Contract price, ₱97,740.)

471-M
AMBALANGAN DALIN
IRRIGATION PROJECT No 91
PANGASINAN
TOPOGRAPHICAL MAP
OF
AGNO GORGE
BUREAU OF PUBLIC WORKS
JULY · 1909
SCALE 1 : 2000
AGNO RIVER
CROCODILE ISLAND
RUSSELL ISLAND

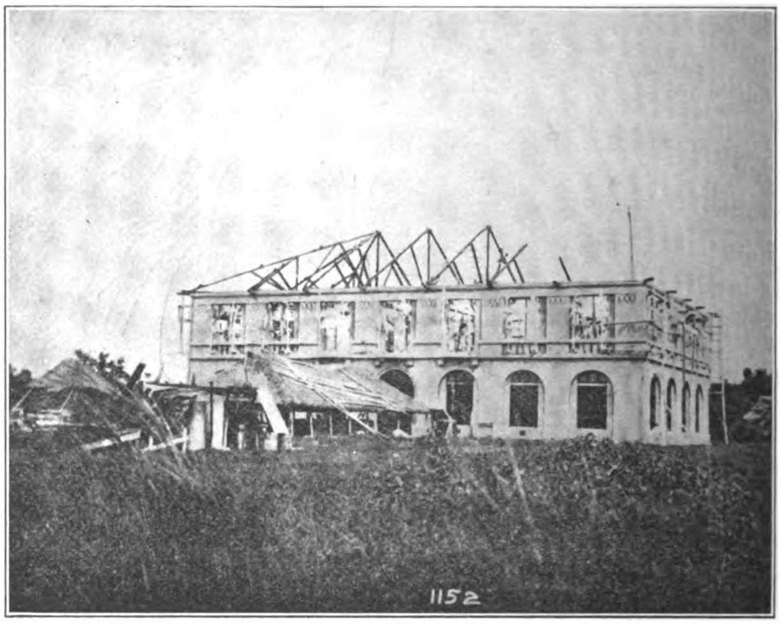



Oblique Conduit Section
Side Elevation of Gate House
Front Elevation of Gate House
Cross Section of Conduit
Section A-A
Section C-C
Plan Roof Removed
Section B-B
Section D-D
475 M
AMBALANGAN DALIN
IRRIGATION PROJECT NO 91-
PANGASINAN.
CONCRETE GATE HOUSE
BUREAU OF PUBLIC WORKS
JULY 1909.

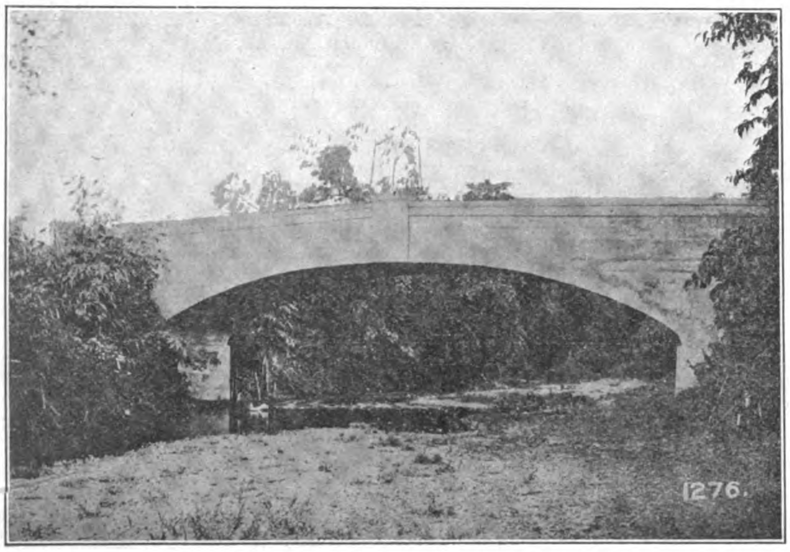
senting an estimated expenditure of ₱3,596,499. Besides this work the Consulting Architect has supervised the Baguio improvements including a city hall, eighty cottages, two dormitories, a supreme court building, public baths and lagoons now under construction or consideration and the building program in Manila in conformity with the Burnham plans. This last includes parking of the ground around the old moat, an aquaria, an Hospital to cost ₱128,700, reconstruction of the Malacañan palace, the ice plant, and Oriente building, by replacing timber with reinforced concrete, a ward at San Lazaro, with laundry, an addition to the Ayuntamiento, a new custom house in Cebu to cost ₱200,000, etc., and of the total final plans completed, 35 structures representing a cost of ₱1,093,444 provide for construction of reinforced concrete; 13 of native hardwood continued during the year and at an expenditure of ₱237,400. Up to June 30th, 1909, but three small projects had been completed but during 1910, the Pilar project in Bataan covering 250 hectares was completed at a cost of ₱9,103, and turned over to the Bureau of Lands. Active work in the construction of the San Miguel-Tarlac project has been maintained during the year and contracts for the canal and river structures have been awarded. The



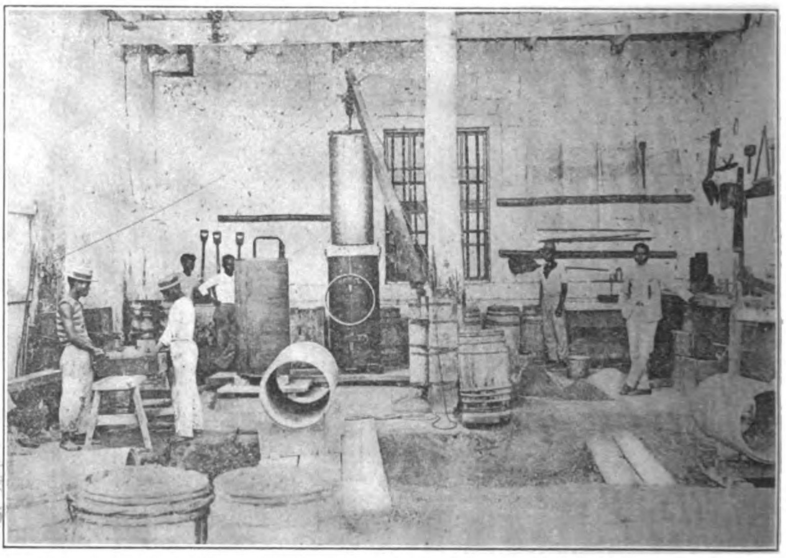

PROVINCIAL HIGH SCHOOL, SAN FERNANDO, PAMPANGA, P. I.
(Reenforced concrete first story, timber second. Contract price, ₱44,606.60.)




PROVINCIAL BUILDING, SAN FERNANDO, PAMPANGA, P. I., UNDER CONSTRUCTION
(Both stories reenforced concrete. Contract price, ₱69,787.)




ANDON BRIDGE, PROVINCE OF OCCIDENTAL NEGROS, P. I.
(Reenforced concrete, span of 10.9 meters. Contract price, ₱2,417.)



CONCRETE PIPE FACTORY, ILOILO, FOR THE MANUFACTURE OF REENFORCED CONCRETE CULVERT PIPES

athletic field, baths, etc., together with the development of the Luneta extension all of which is rapidly progressing.

The important buildings completed during the fiscal year 1910 were the Philippine General Hospital, the Medical School, the Tondo School, Quarantine Station, all in Manila, the Cebu High School, provincial buildings in Tarlac and Ilagan, besides reconstruction of government buildings in many of the provinces. All these were constructed of reinforced concrete with the exception of the provincial buildings at Ilagan and the new buildings at Baguio.

Buildings, for which plans have been completed and which are expected constructed during the current fiscal year, include the nurses' home and dispensary for the General to cost ₱521,373, one of brick costing ₱20,000; one of stone to cost ₱10,000 and six of other forms of construction to cost in all ₱29,846.

*Artesian Wells.*—During the year 1910 three deep well rigs were secured and 16 jet rigs constructed. Sixty wells were drilled of which 15 were sunk by deep well rigs. Three additional deep-well rigs have been ordered and 20 jet rigs are being constructed. In all 100 wells were drilled with jet rigs by the provinces under the supervision of the Bureau of Public Works. The installing of these wells have greatly improved the health of the districts and the bureau proposes an active campaign along this line.

*Irrigation.*—During the year nine additional irrigation projects were authorized making in all seventeen. The work of investigation was beginning of construction on the Ambalangan-Dalin and the Pototan projects await the completion of surveys and land contracts. For the year 1911 there are ₱1,187,272, available for this work. During the year 1910 ₱859.757 were alloted out of a total available of ₱1,062,727. The total yearly appropriation makes ₱750,000 available annually. Irrigation work on the friar lands represented an outlay of ₱25,603.

During the year Major J. F. Case, Director of the Bureau, resigned and was succeeded by Mr. Warwick Greene and during the latter's absence in the United States Mr. Clarence W. Hubbell, formerly city engineer for Manila, was appointed acting director, and later, chief engineer upon the return of Director Green.

# THE FAR EASTERN REVIEW

GEO. BRONSON REA, M. E.

PUBLISHER

WILLIAM CROZIER, Editor.

COMMERCE :-: ENGINEERING :-: FINANCE

A Monthly Review of Far Eastern Trade, Finance and Engineering, Dedicated to the Industrial Development and Advancement of Trade in the Philippines and Far Eastern Countries

PUBLICATION OFFICE:

MANILA, PHILIPPINE ISLANDS

CHINA OFFICE

WHITEAWAY LAIDLAW BUILDING

Shanghai

UNITED STATES REPRESENTATIVES:

J. ROLAND KAY CO.

Teutonic Building, Chicago, Ill.

GREAT BRITAIN:

PROBSTHAIN & CO.

14 Bury Street, British Museum, London, W. C.

SUBSCRIPTION AGENTS:

| | |
|---|---|
| HONGKONG | KELLY & WALSH, LTD. |
| SINGAPORE | " " " " |
| YOKOHAMA | " " " " |
| SHANGHAI | " " " " |
| TIENTSIN | TIENTSIN PRESS, LTD. |
| WASHINGTON, D. C. | BRENTANO'S. |

SUBSCRIPTION RATES: Philippines, United States, Canada, and Mexico, $2.50 U. S. C. per year. To all other countries in the Postal Union, $3.00 per year. Single copies 25 cents, U. S. C.

ADVERTISING RATES will be mailed on application.

Communications pertaining to the Editorial Department should be addressed to THE EDITOR.

ENTERED AT POST OFFICE, MANILA, P. I., AS SECOND CLASS MATTER.

MANILA, SHANGHAI, AND YOKOHAMA, DECEMBER, 1910


CONTENTS


| | Page |
|---|---|
| The Philippine Hat Industry | 225 |
| The Trade of Tientsin | 235 |
| Philippine Public Works | 236 |
| The American-Chinese Loan | 241 |
| Modern Education in China | 242 |
| Japan's Foreign Trade | 243 |
| Proposed Fusion of the F. M. S. with the Straits Settlements | 243 |
| Philippine Trade | 244 |
| F. M. S. Railways | 245 |
| F. M. S. Public Works | 247 |
| Contracting News | 248 |
| Philippine Mining News | 249 |
| Far Eastern Railway News | 250 |
| Eastern Engineering, Construction, Commercial and Financial News | 251 |
| London Metal Market | 255 |
| Far Eastern Share Quotations | 256 |


## THE AMERICAN-CHINESE LOAN

The arrival of Mr. Straight at Peking, November 27, was made the occasion for renewed interest in the American loan of $50,000,000 gold. Mr. Straight has maintained great reserve as to the probability of the American financiers inviting European groups to participate, yet it is generally accepted that the loan will be underwritten by the American bankers and floated in part in Europe, or be made an international loan with the European bankers signatories with the American bankers to the final agreement, if the latter be satisfactory to China.

In a recent interview, Mr. Thomas F. Millard explains the preliminary loan agreement as simply an ordinary arrangement between Messrs. J. P. Morgan & Co., Kuhn, Loeb & Co., the First National Bank and the City National Bank, and the Peking Government by which the former agree to loan $50,000,000 gold to the Peking Government. This agreement was confirmed by Imperial Edict. No collateral security was asked nor an understanding as to how the money was to be spent. A suggestion as to the advisability of an American adviser was made, but, according to Mr. Millard, it was not made a requirement. He further states that the condition that it be made an international loan was optional with the American underwriters and the Peking Government exercised no influence to make it international in character. If reports be true that the American bankers have invited foreign participation it appears, according to Mr. Millard, that it was on their own initiative.

It would further appear, according to Mr. Millard, that this loan is only the first instalment of a very large loan designed to put China on her feet financially and assist her in carrying out greatly needed reforms. Mr. Millard said:

"The plan proposed is not merely to finance China for this one loan, but to advance further large sums in the future, so as to permit her to carry out certain reforms planned, not only currency reform, but the more delicate and difficult question of official reform.

"An international flotation eliminates the possibilities of rivalry and conflict of interest, and permits of a broader market for the absorption of the large sums which the future necessitates.

"Cooperation on the terms of this loan can only tend to benefit and aid China."

More light is given on the subject by Mr. Putnam Weale in an interview published in the *New York Sun*. He says:

"In my opinion the chief point lies in the fact that the grand objection made by Great Britain in 1909 to a general conference of the Powers to revise the treaties will be removed. It is a fact that China has done nothing toward carrying out her agreement regarding the improvement of her currency, which she undertook to do in the Mackay treaty with England in 1902. The United States signed an identical treaty in 1903, following the Mackay treaty instrument clause by clause, and Japan and Portugal did the same. All these treaties, however, are inoperative until the identical instruments have been signed by all the treaty Powers.

"The acquisition of the $50,000,000, however, will permit China to begin at once the free coinage of silver, as her mints are all ready and simply require the necessary specie. The standard will be of the same weight and fineness as the Mexican dollar, whose value is now about 45 cents gold. The main mint in Tientsin will be able to supply the needs of nearly all China within a very few months, and as soon as the dollar makes its appearance everywhere the general financial position of the central Government will be much improved.

"There is another point hardly less important in connection with this loan and that is that China releases herself automatically, to a very large extent, from the bondage in which she has been held by those European bankers who are charged with receiving the matricular payments of the Boxer indemnity of 1900. The fact that hitherto these periodic payments have absorbed all the ready bullion in the country has made it constantly necessary for the Chinese Government to borrow back from these foreign bankers the money she pays quarterly to them, thus emphasizing the condition of financial vassalage in which China has been held so long.

"In the sphere of railway construction this is still no less important. Hitherto by a sort of conspiracy of a limited number of the Powers it has been laid down as a first principle that certain railways shall be built only by certain persons, thus fettering the Chinese to a still greater extent and adding fuel to the flame of the so-called anti-foreign feeling.

"Thus in several directions the loan may be truly classed as eventful. It is the first satisfactory sign that has appeared for the Far East in many months. If this policy of assisting China to regain her authority is persisted in it may not be too late to solve the most perplexing world problem of to-day in an equitable manner.

"The effect of this loan in England will be very far reaching. Although the English press may attempt to minimize the importance of this move, in high places it is quite certain to be accepted at proper value. A change has lately been seen in the English Persian policy, and it is now possible that before many more months have passed there will be a change in the same country's Chinese policy.

"There is one important factor, however, that is not to be lost sight of, and that is the Japanese. That they will make some counter move very soon may be fully expected. It may not be presumptuous to hazard the opinion that that counter move will come in Manchuria itself, and the diplomatic world may therefore now look forward to the beginning of a new period of political activity. The negotiation of the loan may be regarded as a great victory for American financiers, for all the great financial groups of the world have been willing to lend this money to China."

A later Peking dispatch quotes Mr. Straight to the effect that his visit to Peking is simply to arrange the details of the loan. The agreement pertains only to an understanding between the bankers and China and has no political significance beyond a desire to aid China.

The loan will be participated in by different foreign groups and will inaugurate a new departure by eliminating separate "spheres of influence" in the Empire.

The above interview is widely quoted and seems to be authentic. It bears out to a large extent the views of Mr. Millard and Mr. Weale.

However, the Japanese press denies that Japan is opposed to this loan or that she is contemplating a counter move. Indeed, the attitude of Japanese newspapers is generally favorable, although many of the radical prints, basing their comments on misleading rumors, interpreted the loan negotiations as a direct American move against Japan. Under date of December 1, the *Japan Mail*, referring to a statement appearing in the *Shanghai Times* to the effect that Japanese financiers advised China to borrow from Japan instead of the United States and that China's refusal to adopt this counsel was the origin of Japan's opposition, points to the ridiculous assumption that Japan desired to lend money to China or had any objection to the American loan being consummated. The *Mail* says:

"It is very evident that Japan is not in a position today to lend China 100 million *yen*, and it is equally evident that, in her present mood towards her island neighbour, China would not be in the least likely to choose Japan for a creditor. Japanese statesmen are perfectly *au fait* of the situation, and nothing is more inconceivable than that they should make to the Peking Government a proposal which would certainly be rejected by the latter and misconstrued by the world. Besides, we are not aware that Japan has declared herself hostile to the 100-million loan. It is not even known whether she has claimed a right to be a partner in the transaction, and we take it as tolerably certain that on no other ground, except her own seclusion, will she be at all disposed to obstruct a transaction in which American, German, French and British financiers are said to be interested. As a matter of fact, the Japanese

press has hitherto been remarkably reticent about this loan, and if we were asked now to state the view held in Japan, we should be puzzled to do so."

Quoting the *Mail* further:

"Without mentioning its authority, the *Nichi Nichi Shimbun* publishes in large type an emphatic denial that any objection has been raised by Japan to the Chinese loan or that any demand has been preferred by Japanese statesmen for participation in the loan. All that Japan has done is to express in Peking friendly confidence that she will not be excluded from the privileges accruing to the creditor countries. So far from there being any truth in the rumours hitherto published about an objecting attitude on this country's part, it is a fact that the four Western Powers concerned in the transaction are desirous of securing the cooperation of Belgium and Japan. It is not likely, however, that Japan will take any definite step without consulting China's inclinations, and measures are said to be in process or in contemplation with that object. If Japan becomes one of the creditors, she will probably be represented by the Specie Bank and the East Asia Industrial Company (To A Kogyo Kaisha)."

An interview with Mr. Odagiu, a director of the Yokohama Specie Bank, appears in the *Japan Times* of December 1, in which the director said "that he could not tell whether a loan of $50,000,000 had actually been concluded between the Chinese Government and the International Banking Corporation, but that he thinks it quite possible that that has already been done, in view of the past relations between them. What remains to be done is, therefore, the preparation of its details. There seem to be some who suppose that the loan negotiations have come to a standstill as the English, French and German groups have stepped in to participate in it. It must be remembered, however, that the International Banking Corporation represents not only the interests of America but those of England, France, and Germany also. It is quite natural, therefore, that these three groups should also take part in the loan. On the other hand, America may wish to monopolise the loan, but she dare not take that step, for fear that her money market would be disturbed if the whole amount of the loan is supplied by her market alone. She has, therefore, it seems, proposed to English, French, and German capitalists to participate in the loan. As for the amount to be taken up by each group, they will differ according to the condition of the money market and other circumstances. As America has, however, taken the initiative, she may have proposed to send a financial commissioner. But it is a question whether other three countries will agree to the proposal. They may agree to the appointment of a financial advisor, but they will flatly refuse to allow America to send a financial superintendent. Nevertheless, this matter will be settled in some way or other, and the loan will finally be signed at no distant date.

"It is also to be noticed that there has been a secret understanding between England, France and Germany to take concerted steps towards China and that America has now joined in this understanding. No one can decide at once whether this means the failure of Russia and Japan that they do not participate in the loan. Supposing, however, that Japan did take part in the loan, she would receive some check from other groups and might not be able to get a fair share owing to her economic condition."

From London cablegrams we learn that President Taft in his message outlines America's policy in China. He stated that it had for its purpose the encouragement of the investment of American capital in China to assist development without prejudice to her national independence.

*Reuter's Agency* in referring to the European participation stated that while the arrangement "allows complete independence of action to each nation it abolishes the financial spheres of the old policy, under which one financial group has been playing off against another.

"Finally, by securing equal participation in the loans in any portion of China, the agreement disposes of the idea of conquest in China by any Power by means of railways."

Our latest advices from Peking confirms former reports in that the American Group has invited European participation and there is no reason to believe that Japan has not been included, so that the only objection to the loan arrangement with the American bankers, readjusted at the instigation of the latter into an international loan, may be expected to come from China.

The impression received points to a desire on the part of Peking to have the loan go through as originally arranged with the American Group and it may be that when the matter of adding the other western groups as signatories to the agreement, requiring an amendment to the original form, is proposed, it may meet with serious opposition from the Chinese. If our impressions are correct, we would have a rather unusual loan situation. The American bankers on their own initiative encouraging European participation and the Peking authorities opposed to treating with any but the American Group.

That the proposal of the American Group designed to eliminate spheres of influence is the most desirable adjustment of China's financial embarrassments, is generally admitted. And we see in this international arrangement a practical endorsement of America's policy since it might be called the first step in the direction of the "neutralization" of China's foreign loans which in effect would prove more potential than a similar international agreement limited simply to assisting China in the development of the Eastern Provinces. And what must be most gratifying in all these negotiations is that the attitude of the American bankers has been consistant with the spirit of America's declared policy, thus disposing of any possible suspicion of ulterior motive heretofore more or less covertly mooted.

Having a bearing on this subject and expressive of British sentiment in relation to intercourse with China, we quote from the report of the annual dinner of the China Association an excerpt from a speech by Mr. C. S. Addis denoting approval and support of international cooperation.

Mr. Addis said:

"I began by asserting that there was no essential antagonism between the interests of the Powers and China. Let me end by saying that there is no longer any real cause of difference between the Powers themselves. The whole trend of modern diplomacy at Peking is to attenuate such differences as still remain. Spheres of influence, spheres of interest, and such like obsolete litter have been swept away into the limbo of the past. Concerted action has taken the place of the old game of beggar-my-neighbour to the great advantage of all concerned. But this is not all. For diplomacy is the handmaid of commerce, and now you have the representatives of European, and laterly, I am happy to add, of American finance, meeting in conference in order to compose their differences and, while preserving the complete interdependence of the groups, to associate themselves together for the harmonious prosecution of their common aims for the peaceful development of the Chinese Empire. In the pursuance of this policy we are under repeated obligations to the British Minister. (Cheers.) It is ill speaking of a man to his face, a task rendered none the less difficult in any case by an unbroken friendship of five-and-twenty years, but I am merely stating the bare fact when I say that the happy change in international relations to which I have alluded would not have been possible but for the confidence reposed by China and the Powers alike in the loyalty and good faith of Sir John Jordan. (Loud cheers.) If not exactly a Scotchman, Sir John must be allowed to have all the requisite ability. (Laughter.) His complete knowledge of Chinese affairs, his aready sympathy with ll classes, and his unswerving rectitude have lent an added weight to British counsels in the Far East, and have won for himself that good name which is rather to be chosen than great riches."

## MODERN EDUCATION FOR CHINA

Publicists generally agree that the most potent influence working towards the regeneration of the Chinese is the school. It is true that the initial educational work along modern lines met with serious obstacles, and not a few pioneers admitted failure, but many prejudices have been overcome and during the last decade there has developed a marked disposition in many sections of the empire welcoming western education.

To the early pioneer missionaries must go much of the credit for what has been accomplished. They were not thoroughly equipped to undertake this work successfully. As a rule they were evangelists carrying out what they believed to be a divine mission in preaching the gospel to every creature, not with any too much consideration for the sensitive feelings of the Chinese, or respect for their customs or their philosophies. There was little of the spirit of toleration in those old warhorses of the church.

But better understanding came later, with more intelligent direction of energies. The sympathies of the Chinese were enlisted in direct ratio to the measure of regard for their customs and established forms of etiquette.

Schools scattered here and there made their appearance in the centers of population, but little general progress was noted until the youth of the country sent abroad to be educated returned graduates of modern universities. To these young men must be accredited much of the development of the now almost national desire to apply to the work of modernizing the nation the best in western ideals.

This very desirable ambition has not lacked outside encouragement. Among the most important educational movements of recent years is the plan of the Universities of Oxford and Cambridge for the establishment of a Chinese University having for its purpose a comprehensive educational program covering all the arts and sciences.

There is some difference of opinion as to the advisability of western initiative in this and other educational movements in China. One school appears aggressive and places the wishes of Chinese generally as a secondary consideration while another school does not believe in participating in any educational movement in China unless upon voluntary solicitation of the Chinese.

We have in mind as illustrative of the attitude of the latter school a letter written by Professor Bailey Willis, a noted geologist of the U. S. Geological Survey, addressed to the British projectors of the Oxford and Cambridge movement declining an invitation to cooperate in the China University scheme. As one of his reasons for declining Professor Willis wrote:

"This arises partly from the fact that I expect to be in Patagonia for some time to come but more particularly from the conviction that it will be best for China in the long run if she works out her own salvation in educational matters. During my residence in China I became deeply impressed with the power and originality of the Chinese mind and also with the fact that it possesses characteristics which will lead it to develop along lines of thought that are not wanting in our own thinking but are less potent with them. I refer to the well known differences between the philosophical mentality of the Chinese and the inventive ingenuity of the western peoples. There are broader reasons resting upon views which I hold as to the evolution of the human race and the certainty of survival of the highest intellectual and moral type which lead me furthermore to believe that it is desirable that an individual people like the Chinese should develop a civilization without interference on our part and only in so far as they themselves may find it advantageous, to avail themselves of our learning."

This remarkable letter voices the opinion of a large number of publicists familiar with the general attitude of the Chinese in the past. As with the regulation of Chinese loans so also in introducing western education little or no consideration, up until recent years, was given the wishes of the Chinese. In all these matters China assumed the role of "passive resistance" and we are not uncon-

vinced that the introduction of western education in China would have been more generally popular years ago if men of the Professor Willis stamp had been identified with the early work.

However, hindsight is always less obscure than foresight and the many sacrifices of the early educational missionary, full of zeal and backed by the courage of conviction, have not been in vain. Western education is now desired by the Chinese in large measure and every movement designed to meet the demand is worthy generous support. The spirit of fairplay is entering into the relations of foreign nationals with China and as it becomes the more general, western institutions will be the more welcome.

Hongkong is interested in a university movement not onlyof vital importance to the colony, but one sure to wield a large influence in South China.

Again there is the Philippine University, while proposed originally for the sole benefit of the Philippines, is ambitious to lead as an exponent of Western ideals in the Far East. In this the *Manila Times* is not in doubt as to the feasibility of such an educational contract. Under the caption "*Why Not a Great Oriental University*," the *Times* says:

"'Why not make the University of the Philippines a great educational center for all the far east, an institution that will attract students from China, Japan, Siam and the rest of the orient and teach them the higher American ideals? Here in the Philippines and in the rest of the far east we Americans have chiefly shown our material side and that is our least attractive side. Why not give the east a chance to fully see the other side? Education is capable of giving Americans and Filipinos an understanding, a communion of thought that nothing else can confer and if there is to be any conquest of the east it can only be the conquest of education.' These questions were asked these comments made by a recent visitor who is engaged in unheralded but very searching examination of conditions in the Philippines, during a conversation with the writer and they certainly serve to inspire the imagination. It would be possible to create here a great institution based upon high western ideals and yet fitted to its larger environment. Thousands of oriental students are now sent abroad every year, and under sufficient inducement a considerable proportion of them could be brought to Manila. Distance, economy of living and the avoidance of such complete isolation from home would all be strong factors favoring the project. Such an institution should make a special appeal to the Chinese who show an increasing desire for western education and are now going in large numbers and at large expense to colleges in the United States.

"The economies of the time would probably make it impossible for the Philippine government to provide a university of the kind suggested. In truth it will be hard put to provide facilities for the higher instruction of all the young men and women who now press up from its own schools. But the project is worthy of the consideration of the United States government itself, worthy of the thought of the men who have in their keeping huge foundations like that created by John D. Rockefeller and the late Russell Sage, worthy of the philanthropy of men like Andrew Carnegie.

"Such a university would insure the success of the mission undertaken by the United States in the Philippines and materially strengthen the main position of the United States in the far east.

"This ideal is not the empty dream of a dreamer. Good foundations have already been laid. In the Philippine Medical school, recently incorporated in the University of the Philippines as the College of Medicine and Surgery, with the splendid facilities of the new General hospital, we have an institution better equipped than many American schools. The new buildings about to be equipped and opened at Los Baños put the College of Agriculture on a substantial basis while wise beginnings have been made in the teaching of veterinary science with requirements for admission as high as the best veterinary schools in the United States. Moreover in the Bureau of Science there is an unusual opportunity for providing advanced research work such as characterizes the most important universities at home and it will undoubtedly be made a part of the university.

"We have already the beginnings of what may be a great institution worthy of the help and encouragement of all who are interested in making Manila the intellectual center of the orient."

The above proposal is no idle dream. In the Philippines many dreams are not of the idle variety. Many have come true. We are assured that plans for carrying out this project have already taken form.

Besides all this foreign activity China is helping herself. A program looking to the establishment of primary and intermediate schools, has been outlined, and in some provinces successfully carried out. Schools and colleges have been springing up in almost every large center. Western methods are being introduced and foreign languages taught. The educational program includes universities in Peking with a view to making the capital the great educational center of the Empire. Provinces are vieing with each other in the matter of advanced education.

Now that there is promise of a general reform of China's finances with relief by more generous foreign loans, we may expect one of the most remarkable national educational campaigns of modern times directed so as to benefit from the experience of modern nations in this important department.

## JAPAN'S FOREIGN TRADE

The phenomenal growth of Japan's foreign trade and the means of encouraging further expansion was the subject of a speech delivered by Marques Katsura at a dinner given in Tokyo by the Foreign Trade Association of Japan last month. Among the references of special interest was the statement that up to the end of October the ratio of exports to imports as compared with former years promised to place the balance of trade in favor of Japan by the close of this year. The Premier stated that the imports exceeded the exports by yen 1,600,000 while for the corresponding period 1909, the excess was about yen 20 000,000. Marquis Katsura said:

"Turning to the eternal trade of the country, the better condition of financial world abroad since last spring had a favorable effect on our trade with America, in which the export of raw silk and tea, the most important of our exports, presented unusual activity, while the plentiful crops of agricultural produce in China and the consequent increase of the purchasing capacity in the Chinese markets offer a hopeful future for the export of cotton yarns and other merchandise to China. To explain in figures the total volume of exports and imports since January last shows an increase of 113,000,000 yen in round figures as compared with the corresponding period of last year. Although the amount of imports so far shows an excess of about 1,600,000 yen over exports, it is possible that by the end of the year exports will exceed imports, trade thus resulting in favour of this country. The reason for the increase of imports is chiefly ascribed to the increase of import of raw and ginned cotton, iron, wool and some other raw materials, while that for the increase of exports is attributable to the increase of exports of cotton yarns, raw silk, cotton stuffs, habutaye, tea and other manufactured articles and manufactured raw materials. In short the relation between the export and import trade may be said to be in a very satisfactory condition, such as has never been experienced in recent years. Viewed from all directions, it is plain that our economic world and foreign trade have already emerged from the period of the prolonged inactivity since last year and are now in a fair way of development. This favorable tendency is partly to be attributed to the energetic efforts of the gentlemen interested in those lines of business. Comparing the volume of the country's foreign trade in 1885, the year when the present association was inaugurated, which was then about 81,000,000 yen, with the total volume of exports and imports for last year amounting to about 807,000,000 yen one is startled at the remarkable growth of our foreign trade made in the course of only twenty-five years. This is a matter for congratulation to the country."

He urged that manufacturers should endeavor to improve their methods with a view to securing greater economy in operation and better quality of product. He then touched on the necessity of encouraging high standards of business morality in the attainment of any degree of success. On this subject he said:

"It is not less important that those engaged in foreign trade should always bear in mind that the secret of ultimate success in commerce lies in the respect for business morality, while making efforts to investigate the condition of foreign markets, the condition of demand and supply, and the turn of taste and fashion, thereby to develop the market of our manufactures. For the furtherance of this purpose it is required of merchants to be quick in securing all available opportunities and to be firmly determined to overcome all difficulties and hardships, without being influenced by the elusive gains of the moment. Manufacturers, bankers, traders and the businessmen engaged in the transportation of goods are companion travellers, so to say, sailing in the same boat in the commercial sea and must always maintain a close and smooth connection between themselves, but for which all other efforts to enhance the trade development of the country will be of little good. As regards the means and ways to promote the commercial development of the country the joint efforts of the Government and of businessmen directly concerned in the line are of great necessity in bringing them to a fruitful result. With this view the Government has some time ago organized the Productive Resources Investigation Committee as you are all aware, and has started the work of investigation into the best ways of promoting the country's foreign trade. The members of the Foreign Trade Association are requested to pay special attention to this point and do their best to contribute to the commercial development of this country."

It is unnecessary to state that his speech made a profound impression and will no doubt serve to make for greater co-operation and stability. The remarkable growth of Japan's foreign trade during the last twenty-five years may well be considered indicative of the commercial potentialities of the country and its people. And it might be said that Japan's success is largely due to the adaptability of her businessmen to conform to changed conditions and the intensity of their desire to keep well to the fore by adopting the best in western methods on their merits and without permitting any local prejudice to obscure their judgment.

## PROPOSED FUSION OF STRAITS SETTLEMENTS AND FEDERATED MALAY STATES

At the annual Straits dinner in London Mr. E. C. Ellis announced himself an exponent of the amalgamation of the Straits and the States under one administration, on the grounds that it would work for greater economy and remove the possibility of antagonism and friction. His speech has not been very warmly received in the Federated Malay States. The press of the States is satisfied with the present status and refuses to admit that the interests of the States and the Colony are identical.

In his speech Mr. Ellis, referring to the finances of the Colony, said:

"The answer to that question, to my mind, is the fusion of the Colony with these great tracts of country known as the Federated Malay States, which we have done so much to bring to their present position. (Sir Frank Swettenham: "No.") I know there are bitter opponents to that. I think it is quite possible that the suggestion I have made may raise the cry of 'Hands off our revenue.' Gentlemen, I have no idea in my suggestion of attacking the coffers of the Federated Malay States, but, even if I had, I think there is ample justification for it. I ask you to consider what would be the position of the Malay

Peninsula to-day, what would their revenues be, but for the fact that the Colony is at their foot? We have given those countries of our best in men and money in their development, and as the Colony would be nothing without the Empire behind it, so do I assert that the Federated Malay States would be nothing without the Colony behind it. (Sir Frank Swettenham: "No.") I am aware that I am preaching heresy in the minds of many. We have protected those States from aggression, we have built up their country, and I do not think it is unreasonable now to ask them to contribute to our cost of administration. I am aware that opposite views are held, and that a distinguished and experienced personage, who I regret to see is here to night so that he may bowl me out, holds the view that such a proceeding would constitute a breach of faith. ("Hear, hear" from Sir Frank Swettenham, and laughter.) I humbly differ from him. After all, a treaty is only a contract, and if the parties to that contract meet together and come to the conclusion that it is to their mutual advantage that that contract should be modified or varied or even rescinded and a different one entered into, where arises the breach of faith? If I were suggesting that the greater forces which our Empire holds should be exerted to coerce the rulers of those States, it might be a different matter. I am not suggesting anything of the kind. Surely there is something to be gained by consolidation of the Colony with those countries. I would repeat that I am not after those coffers, although incidentally, no doubt, they would form part of our property—(laughter)—yet it would only be in common with themselves. We are not taking it away from them, and they would also share whatever property we may possess. Gentlemen, I am not putting this forward in a laughing or joking strain at all. The amalgamation of the Colony with the Federated Malay States I advocate on many grounds, some of which I will endeavor to enumerate. Consolidation must bring power. It brings strength. It will effect economy in administration. It will remove those vexatious disputes as to what are fair and proper contributions in matters of importance to both countries. It will remove antagonisms and smooth away petty jealousies, and result in one powerful organisation having one sole object, which is the welfare and advantage of the community as a whole. The aborigines of the Colony and of the Federated Malay States are one race and can it be suggested that the Malay in the Colony is less well governed, is treated with less sympathy, is less understood, or treated with less consideration than he is in the Federated Malay States? What has he to lose by amalgamation? Is it any loss to him that his country forms part of the greatest empire the world has ever known? That is the position that I advocate. The views which I have been putting forward I hope are shared by many. At the same time, I am putting these views forward at the instigation of no one but myself. In conclusion, while thanking you on behalf of the Colony and the Federated Malay States, and also on my own behalf, for the way in which this toast has been received, I would express the fervent hope that before very long this toast may have a shorter and more compact title, arising out of that fusion which I think should take place, and because those countries which geographically and in race are one have become so in every sense of the word. (Cheers.)

At the meeting of the Federal Council held about the same time Sir John Anderson made reference to a change in the title from Resident General which was interpreted as being more than a simple coincidence. However, His Excellency discounted the idea that the appointment had any reference to fusion as proposed by Mr. Ellis and stated that things would go on as heretofore. The *Malay Mail*, however, is not altogether reassured and says:

"It may be admitted that the existence of both a High Commissioner and a Resident-General would not appear to be a vital necessity, so long as there exists machinery for the safeguarding of F. M. S. financial interests. The difficulties experienced by His Excellency in protecting several interests which—with all due deference to Mr. Ellis, Mr. Allinson and others—are not identical must be very great, and, although it may be urged that H. E. has no reason to favor one interest at the expense of another, the existence of a strong Resident-General is by way of being an insurance against F. M. S. interests suffering. Failing that, we have maintained—and continue to maintain—that the Federal Council should have full powers over F. M. S. finances. As things are, the Council has not, and does not appear likely to acquire, such powers, and now the Government is taking a step which can only be regarded as weakening the safeguard which previously existed. It was stated in Council that the definition given of the position of Chief Secretary was believed to be in accordance with the intentions of those who originally invented the Resident-General. Under the Treaty of Federation the Rulers 'agree to accept a British Officer, to be styled the Resident-General, as the agent and representative of the British Government under the Governor of the Straits Settlements.' If those inventors meant 'Chief-Secretary,' it may be asked why they chose the title of 'Resident-General.' H. E. assured the unofficials that they had nothing to fear, but on the facts it is hardly surprising that the change should be regarded by many as a step towards the ideal of Mr. Ellis. For ourse ves, we cannot believe that the Government would ever contemplate such a step as a breach of its treaty obligations. We may be pardoned if we fail to see the necessity, from the F. M. S. point of view, of the fusion advocated by Mr. Ellis. The prosperity of this country is freely admitted, and we prefer to advocate a policy of leaving well alone. That prosperity is tangible; the benefits which this country would derive from amalgamation are, to put it mildly, nebulous. It is significant that both Sir Frank Swettenham and Sir Hugh Clifford, two administrators whose names are inseparably associated with the Malay States, should have emphatically disagreed with Mr. Ellis, and they were supported by Sir William Taylor. Sir Frank Swettenham certainly served most of his time in the F. M. S, but it must not be forgotten that he was also Governor of Singapore."

The Federated Malay States are enjoying an era of wonderful development and local pride in the accomplishment is general. It has been up-hill work and many discouragements had to be met. In some respects, the pioneers believe they were not accorded any great measure of sympathy from the Straits Settlements when it was most needed and now that they are entering into the promised land, they are naturally jealous of their independence. They are unconvinced that fusion would not restrict their control of local affairs and hamper them at a time when they should have greater freedom in working out their own problems.

## PHILIPPINE TRADE

When the Payne Bill became law in 1909 and reciprocal relations were in large measure established between the Philippines and the United States, foreign merchants were alarmed of its probable effect upon their trade. A review of the report of the Insular Collector of Customs confirms the opinion advanced by the Review at the time that a general impetus given to trade by the new arrangement would be realized. We note that during the year 1910, the imports from the United States amounted in value to $10,776,128 gold as against $4,693,831 gold in 1909, an increase of approximately $6,100,000 gold, while the imports from foreign countries for 1910 reached a value of $26,285,797 gold as against $23,100,651 in 1909, an increase of approximately $3,200,000. To the importer of foreign goods, the result must be more than reassuring in view of their preconceived theories of disaster.

In exports also an increase is noted in foreign trade. In 1910 the value of exports to the United States reached $18,751,420 as against $10,155,087 in 1909, an increase of approximately $8,600,000, while the export to foreign countries in 1910 amounted to $21,135,430 as against $20,890,391 in 1909, an increase of $245,000. So that notwithstanding the Payne Bill offering a special market, there was no falling off in this department as might have been expected.

It will also be noted that the increase in export to the United States for the year was greater than the increase in imports from that country showing a balance of trade between the dependency and the United States in favor of the islands of $8,000,000. On the other hand foreign countries purchased Philippine products to the value of $21,135,430 and sold the Philippines goods to the value of $26,285,797, a balance of trade in favor of foreign countries of approximately $4,150,000. A further analysis places the increased export of sugar and tobacco to the United States at $6,600,000 while the hemp and copra increase amounted to $1,600,000 approximately. The increased export to foreign countries represented in copra alone was valued at $2,350,000 and this was counteracted principally by a falling off in sugar export to China and Hongkong to the value of $1,900,000.

While the general increase in trade compared with previous years is very gratifying to the American merchant it seems remarkable that the American manufacturers failed to secure at least an amount equal to the purchases made of insular products and especially so since returns show that foreign countries secured a large balance of trade in their favor.

This is difficult of explanation, but we believe it was largely due to the appreciation of the opportunities for trade expansion in the island by foreign manufacturers together with their thorough knowledge of conditions and their disposition to study the latter so as to cater to the native's taste. It must also be remembered that well established foreign houses have connections and branches all over the islands and are thus largely in control of the most effective avenues of distribution. These houses have been in business for many years and have established reputations which in a tropical country is most valuable capital. In addition, the European manufacturer extends a liberal line of credit to these houses and assists in every way in advertising and otherwise introducing his goods Again, the European manufacturer gives his especial attention to foreign trade and the importer in the islands handling his goods can always depend upon having orders filled expeditiously.

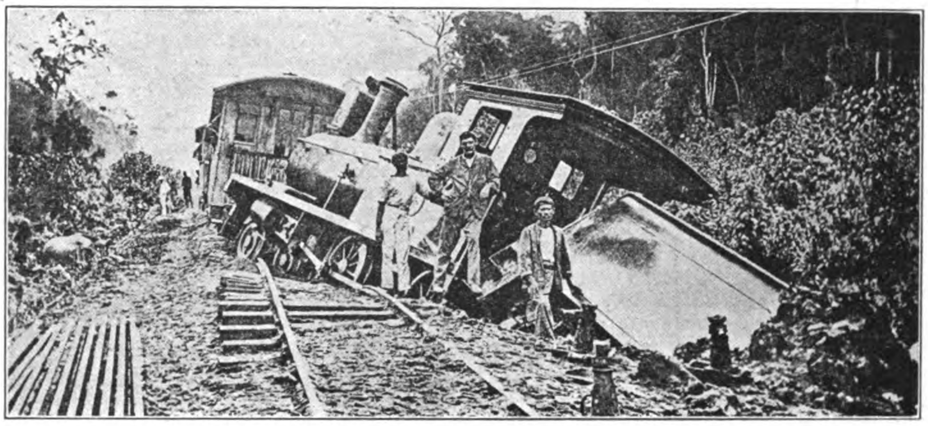
On the other hand, the American manufacturer generally has not yet realized the importance of a well established foreign trade. His efforts in this direction have been spasmodic. When times are hard and the bottom falls out of the domestic market, he shows some interest, but it never extends beyond the export of goods manufactured for the home market. He does not make a study of local conditions nor does he show an inclination to follow the advice of the merchant on the ground. And what is more serious, the confiding Philippine importer who establishes a line of American goods during one of those slack seasons referred to, finds upon the resumption of American prosperity that his orders are ignored and often rejected. These methods have greatly prejudiced local importers against carrying American goods and now when any manufacturer, who is sincere in his purpose, desires to engage permanently in foreign trade, he finds the local importers and dealers lukewarm. This he usually charges to prejudice rather than rightfully to the methods of his predecessors. Again, when the Payne Bill went into effect, not a few American manufacturers in staple lines concluded that foreign competition had been excluded and proceeded to invoice goods at domestic prices, without inquiring into the real status of the trade as affected by the Payne Bill, and altogether neglecting the adjustments made by the foreign manufacturer to preserve his trade.

A review of the report of the insular collector, while it sets forth the increased importation of American goods, gives convincing proof how thoroughly the foreign manufacturer had studied the situation and adjusted himself to the new conditions.

# THE FEDERATED MALAY STATES RAILWAYS

At the recent meeting of the Federal Council the sum of $5,462,906 (Straits Cur.) for railways, including capital expenditure and $5,206,169 for railway construction, was appropriated for the year 1911 which indicates that the usual activity will continue to feature the extension of the already very comprehensive system of railway intercommunication of the Federated Malay States. At the end of the year 1908 there were 468 miles of open line of which approximately 40 miles were opened to traffic during that year. These lines included the main line of 352 miles approximately connecting Prai in the province of Wellesley with Gemas on the Johore State boundary, the last section on the main line between Tampin and Gemas, a distance of over 32 miles, having been opened in October 1906. The branches up to that time represented approximately 116 miles, the Seremban-Dickson branch of 24 miles and the Ipoh-Tronoh of 15 miles, approximately, having been opened to traffic in July and October, 1908, respectively.

The total for construction and surveys of new lines for the year 1908 amounted in all to $5,196,969.26, of which $3,050,457 were expended on the Johore State Railway and wagon ferry at Johor Bharu to connect with the Singapore Kranji Railway. The Johore State Railway, which now forms the connecting link between Singapore and the F. M. S.



*From Official Reports.*

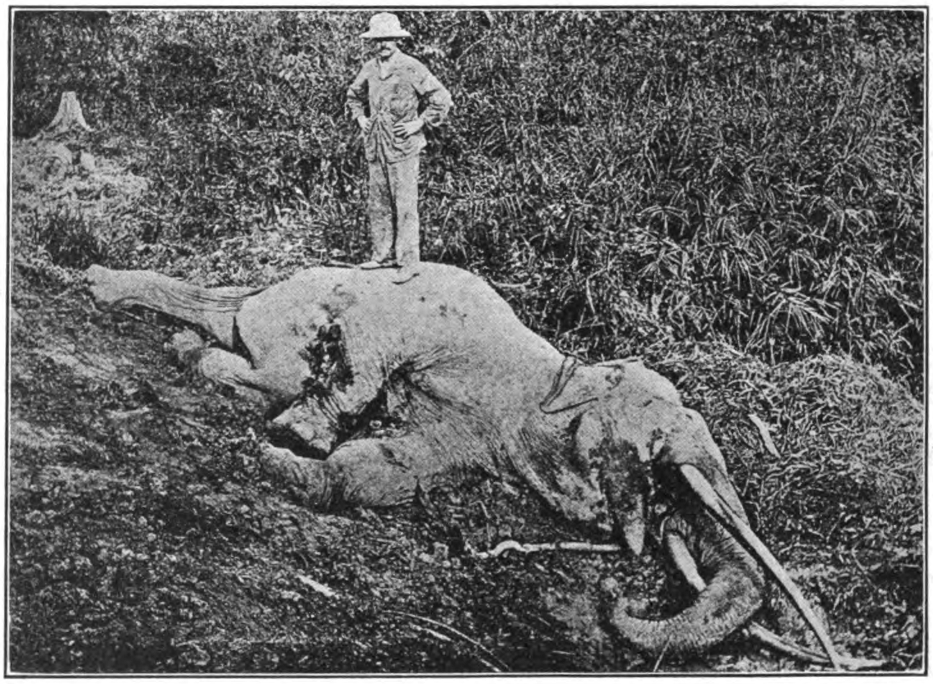
TRAIN IN F. M. S. DERAILED BY COLLISION WITH WILD ELEPHANT

Railway at the Johore State boundary, is 120.5 miles in length and, according to the 1908 report, permanent way had been linked during that year and construction which had been started on the southern end in December 1904 and on the Northern in March, 1905, was well under way. The Gemas-Segamat section of 16 miles was open for traffic in March, 1908, and two other sections covering 54 miles were also completed, making in all but 50.5 miles remaining incomplete.

In July, 1909, through traffic from Singapore over the Johore State Railway and the F. M. S. Railways was established and the wagon ferry across the Johore State put in commission in December, 1909. Since that date, with the exception of serious damage by floods in March, it has been in continuous operation.

The Ipoh-Tronoh branch of 15 miles previously referred to now taps the Tronoh Tin Mines.

The East States Trunk line northward from Gemas is the proposed line which will ultimately connect witht he proposed Peninsular Railway from Bangkok provided for in the recent Anglo-Siamese treaty. The first section is 76 miles in length connecting Gemas with Kuala Semantan. The survey of this section was commenced in March, 1906, and completed in April, 1907. Sanction of construction was given in July, 1907. On this section there are 338 bridges and the line deviates at the 62nd mile to avoid danger from the flood water of the Pahang River. Last month the earthwork on this section was reported completed to the Kuala Semantan end and the rail head was within nine miles of that point.



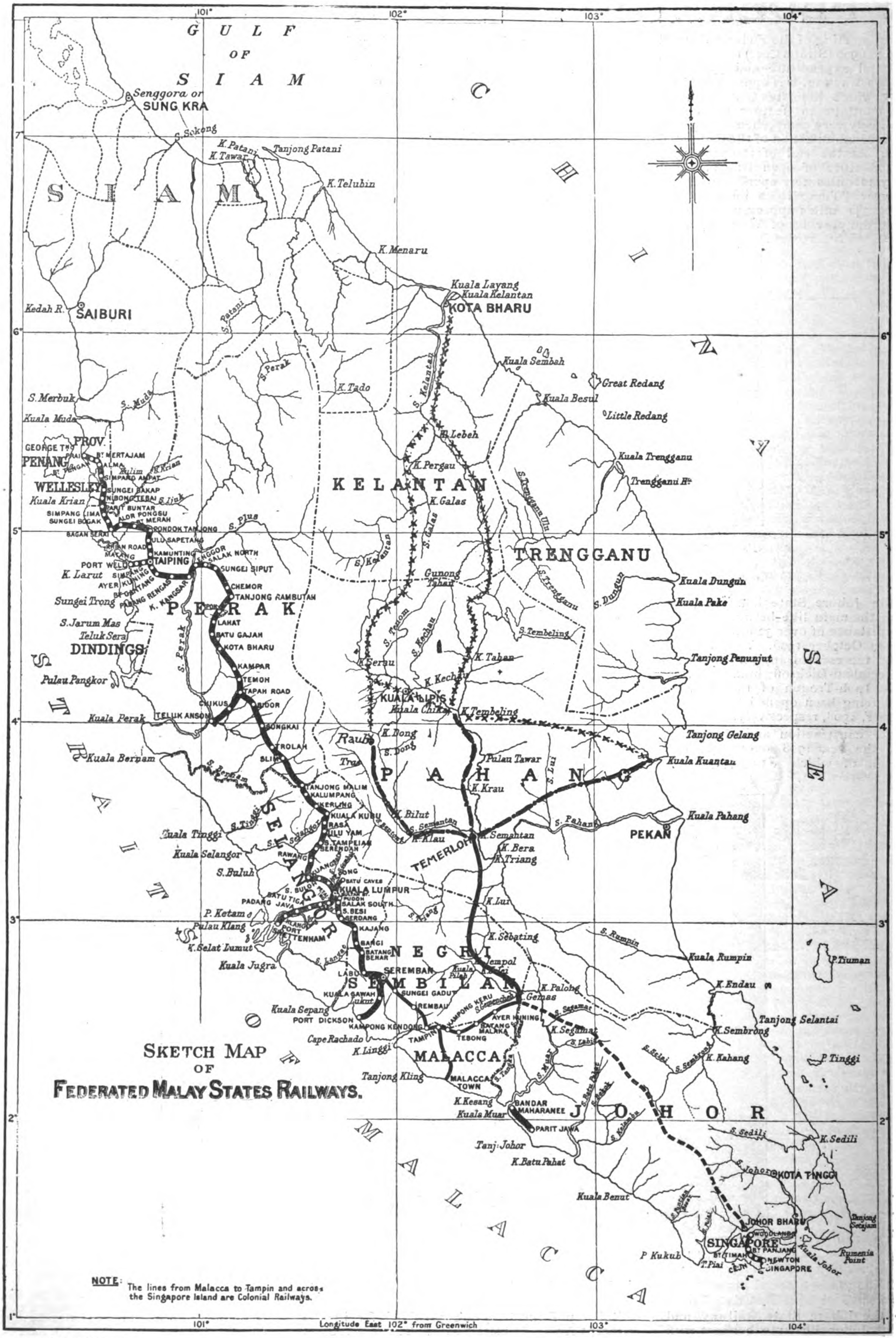
*From Official Reports.*

THE ELEPHANT THAT CAUSED THE TROUBLE

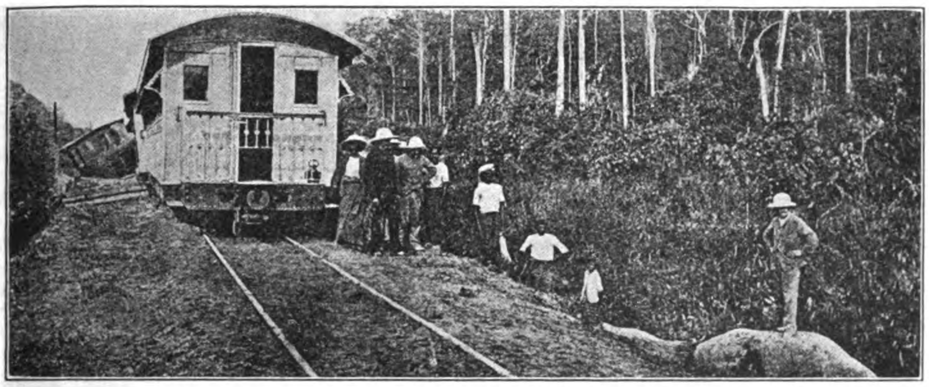
A branch 13 miles in length was also completed connecting Kuala Pilah with Bahua, a station on the Gemas-Kuala Semantan section about 23 miles north of Gemas.

The extension of the permanent survey of the East States Trunk has been carried northward to the Pahang-Kelantan boundary and over one-fifth of the earthwork over a distance of 40 miles beyond the Semantan Jungle has been completed. The preliminary survey brings this line out at Kuala-Kalantan, and it is from this latter section, roughly speaking, that the construction from the British end of the Peninsular Railway will no doubt begin.

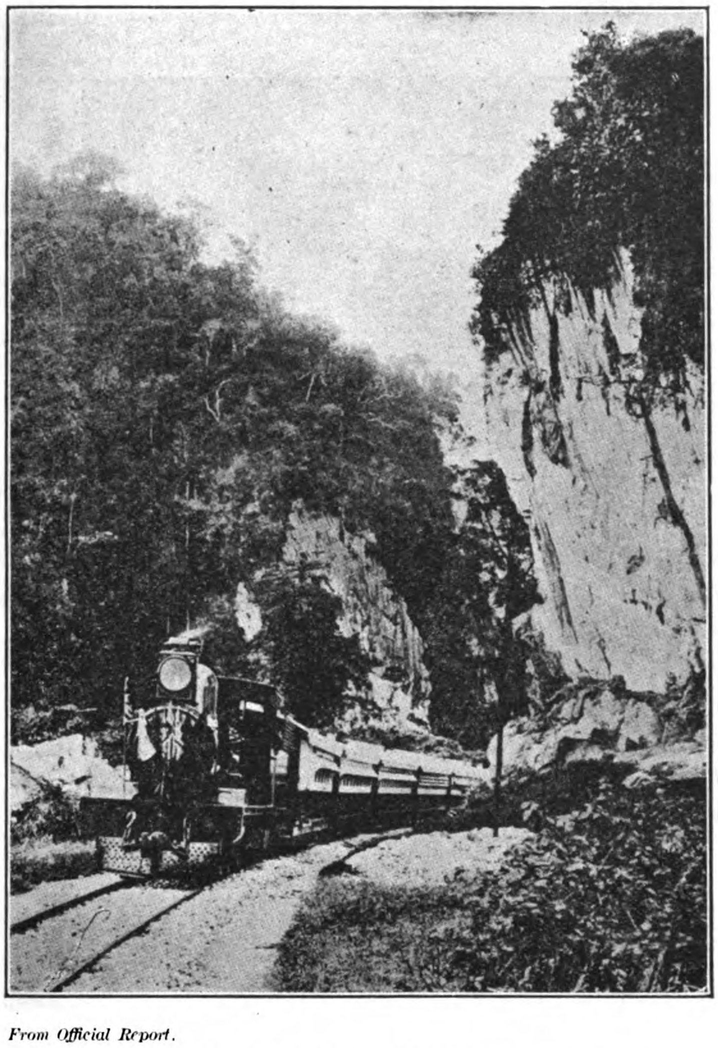
Among the branches proposed is one connecting Ipoh with Gopeng and another connecting Padang Java with Kuala Selangor, the preliminary surveys for the latter having been submitted. The total of capital account up to the end of 1908 amounted to $45,923,430.




From Official Reports.

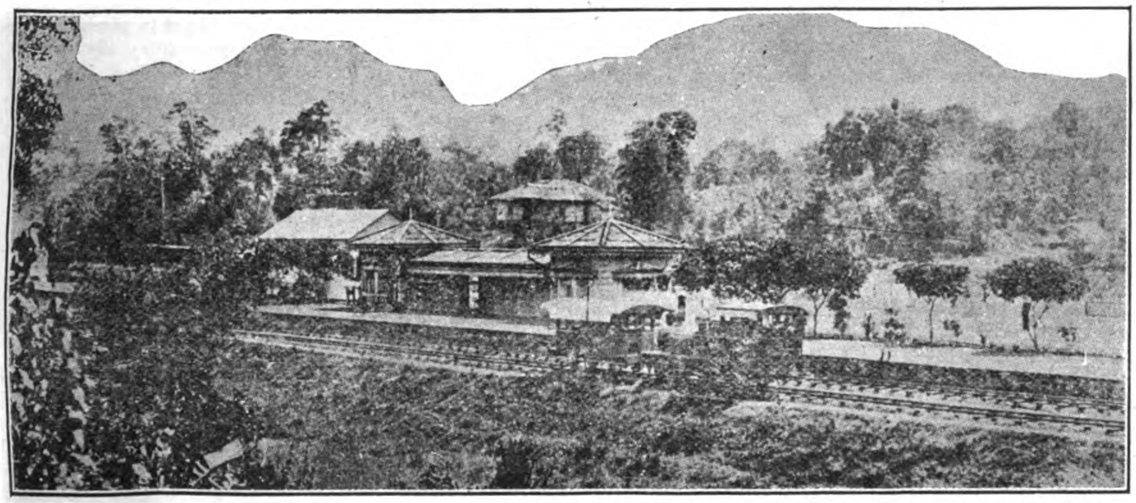


*From Official Report.* REAR VIEW OF WRECK



*From Official Report.*

RAILWAY CUT, LIMESTONE CLIFFS, KINTA, F. M. S.



*From Official Report.* AN ATTRACTIVE ROADSIDE STATION ON THE F. M. S. RAILWAYS.

The receipts for the year from all sources were $5,137,771 and the expenditure $3,457,022, approximately 67% of receipts, leaving a net revenue of $1,680,749.

The report for the year 1909 showed receipts to the amount of $5,377,409. The total expenditure for operation was $3,909,229, leaving a net revenue of $1,468,180. The total capital account at the end of the year was $46,066,565, the net revenue representing 3.18% on capital compared with 3.49% the previous year.

Among the recent innovations of the present year is the construction of a new depot at Kuala Lumpur and the proposal to inaugurate a through night service to Singapore. At the end of the year 1908 the rolling stock comprised 97 locomotives, of which 20 new ones were added during the year, 69 tenders, 17 first class coaches, 22 first and second class combined, 16 second class and 61 second class, 45 third class and brake van composites, all bogies. Besides there were 6 first class, 6 second class, 3 first and second combined, 38 third class, etc., of the four wheeled coaching stock. Of the locomotives Messrs. Kitson & Co. supplied 45, Honslet Engine Co. 21, Dubs & Co. 7, Nasmyth, Wilson & Co. 4, Nelson, Reid & Co. 9, Robert Stephenson & Co. 3, Sharp, Stewart & Co. 2, and the balance scattering. They are of ten different classes ranging from 20.05 ton total weight of engine and tender in working order to 76 tons. Of the largest there were 22.

In connection with this system of railways are a number of motor line feeders that tap the more isolated sections and with the splendid roads built throughout the States this service has been most effective. According to the 1908 report $422,344 represented the total expenditure charged to capital account of which $343,976 represented the cost of motors to that date. The gross receipts for the year amounted to $131,709 and the working expenses including 20% for depreciation, brought the total working account up to $158,582, a net loss of $26,873 as compared with a net profit the previous year of $8,775. When it is understood that the allowance of 20% for depreciation of motors is practically unwarranted owing to the large expenditure for renewals and repairs, it may be seen that the service shows a profit, but it would appear that the railway management is less anxious to have the annual report bristle with profits on paper, than to be very conservatively on the safe side.

In all there are over 150 miles in feeders covered by motor cars the longest motor branch connecting Kuala Kabu in Selangor with Raub in Pahang, a distance of 44 miles, and a branch connecting Kuala Lipis with this line 39 miles in length brings the capital of Pahang within 24 hours of Kuala Lumpur.

The average number of automobiles in operation daily during the year was 13 46, and miles daily per car 53, with average daily receipts of $26 73 per car. The cost of gasoline per mile per car was 83 cents in 1908 and 70.3 in 1907. The average yearly cost of repairs and renewals per car amounted to $1,215.45 in 1908 and $954.65 in 1907. During the year 1908, 202,549 passengers were carried and the car miles numbered 259,178.

The equipment of the motor routes at the end of 1908 comprised 42 automobiles as follows:

Three 24 h. p. Albion mail cars, four 30-40 h. p. double-decked buses, four 30-40 h. p. bus Chassis, six motor Lorry Chassis, four 28-32 h. p. Chassis, three 30-40 h. p. Straker-Squires, four 16 h. p. Albion wagonettes, eight 18 h. p. Milnes Daimler Chassis, one 16 h. p. Albion Lorry, three 24 h. p. Throneycroft Chassis, and two 16 h. p. Milnes Daimler Chassis.

# F. M. S. PUBLIC WORKS

The total appropriated for the Public Works Department of the Federated Malay States for the year, according to the recent supply enactment, amounts to $8,166,374 (Straits Cur.) divided into allotments under the headings: Public Works Department, $1,056,589; Public Works Annually Recurrent, $2,625,325; and Public Works Extraordinary, $4,484,775. This is about $270,000 over the amount expended in 1908. Some idea may be gathered with regard to the working of this department by a short review of the report for the year ended January 1, 1909. On works and buildings alone $2,104,387 were expended during the year. Some idea of the varied character of work under this head may be gathered from the following items:

New Waterworks at Gopeng, Perak, Workshops and other extensions to the Taiping convict establishment, retaining walls to the streets and shop frontages at Bagan Serai and Kuala Karan, schools, officials' quarters and lunatic asylum at Tanjong Rambuntan which is expected completed next year, all these in Perak. Then follows in the State of Selangor, waterworks at Kuala Kubu and Rawang, extension of the water supply at Klang and Kuala Lumpur with addition hospital buildings and the improvement of the head race of the Kuala Lumpur Electric Power Station, etc. Negri Sembilan secured an extension of post office and water supply at Seremban with additions to hospital at Port Dickson and a reading room at Kuala Klawang during that year.

Pahang was supplied with an extension of water drains at Bentong and the water supply at that point was completed, a new wharf at Kuantan, etc.

It would seem, however, that the most important work under this department is the maintenance and construction of permanent roads. For the year ended December 31, 1908, $4,558,679 were spent in this work. This sum represents approximately the annual amount invested in this important division. The roads are divided into metalled, unmetalled, and bridle paths. Of the first there were 1791 miles in 1908 with 246 miles of unmetalled and 1,403 miles of bridle path, a total in all of 3,440 miles. Besides the maintenance of roads already built the returns for 1908 show 124 miles of metalled road, 51 miles of unmetalled road and 65 miles of bridle path added during the year.

The most important construction in this division is the road under way connecting Kuala Kuantan on the east coast with Kuala Lipis, the capital of Pahang. This road, when completed, will provide the main section of a trans-Malaya roadway running from sea to sea across the peninsula and it is not improbable that Kuala Kuantan will sooner or later be connected up by railway with the East Coast Trunk.

With regard to the Lipis-Kuantan road, it is expected completed in 1913 and the earthwork is expected finished early next year. A vote of $3,000,000 was originally provided for this important construction and up to August this year $1,600,000 had been expended.

On bridges alone $528,305 were spent during the year 1908, the largest of these being the Belfield bridge which has four spans of 140 feet each and cost $260,000.

In his speech at the opening of the Federal Council at Kuala Kangsar last month, H. E. the High Commissioner, referring to public works, said:

"The principal buildings under construction during this year are the Lunatic Asylum at Tanjong Rambutan, which it is expected will be opened in April; the Survey Offices in Kuala Lumpur, which should be completed in December; the Land and Survey Offices, Seremban, already completed; Barracks for the Police and Guides; House for the Judicial Commissioner at Ipoh, and Quarters for various officers and subordinates. The Quarantine Camp at Pulau Jerejak, which is being constructed by the Straits Government for the Federated Malay States, will, it is anticipated, be completed by the end of March.

"Plans have been completed for the Water Supply to the Coast Estates in Selangor, the jungle has been cleared at the head works and everything is in readiness for the pipes which have been ordered from the Crown Agents.

"In 1911 the principal works it is proposed to undertake include a preparatory School for Malays at Kuala Kangsar; a new house for the Resident General at Kuala Lumpur; a Hospital for Ipoh; Police Barracks, Post Office and Public Offices at Tapah; Post Office at Kuala Kangsar; Offices and Quarters in the New Territory; extension of river Embankment, Kuala Lumpur; extension of Waterwoks, Kuala Lumpur; reclamation of Batu Road swamp; and additions to various hospitals.

"The programme of road extension includes roads from Changkat Lobak to Bukit Merah in Krian, Klian Intan to Muda River in Upper Perak, Lahat to Sungei Raia in Kinta, Telok Datoh to Bangi in Ulu Langat, Rantau to Ulu Sawah in Negri Sembilan, and the Kuantan-Benta main road in Pahang with a cart-road to it from Lubok Paku."

*Official Reports.*

WOOD LANDS ROAD, A TYPE CONSTRUCTION IN THE STRAITS SETTLEMENTS UNDER DIRECTION OF THE PUBLIC WORKS DEPARTMENT

# CONTRACTING NEWS

BIDS OPENED.—Philippine Bureau of Public Works.—Aquarium: Mr. Harry Thurber, ₱27,050 in 150 days, and Mr. John Gordon, ₱43,000 in 240 days.

PHILIPPINE BUREAU OF SUPPLY.—School supplies.—J. P. Heilbronn & Co. was awarded contract for composition books, scratch pads, wrapping paper and penholders, ₱36,000; Messrs. Erlanger and Galinger secured the contract for blotting paper and acme plate amounting to ₱15,000; Mr. Jack Oppenheimer secured the contract for 4,000 gross Faber pencils amounting to ₱7,880; Messrs. McCullough & Co. secured the contract for blotters and paper tablets. The other bidders were the American Hardware & Plumbing Co., Henry W. Peabody & Co. and Messrs. Wise & Co. Ltd.

PHILIPPINE BUREAU OF PUBLIC WORKS—Addition to laboratory of the Bureau of Science.—Bids submitted. R. M. Loper, ₱48,300 or ₱53,430 as an alternate bid for extra work; Coleman and Goodman ₱47,030, or an alternate of ₱53,000; Manila Construction Company ₱57,700 or an alternate of ₱62,700; M. Manade ₱97,000, or an alternate of ₱107,000; John Gordon ₱65,750 or an alternate of ₱72,600; and the Manila Saw Mill Company ₱58,950 or an alternate of ₱64,800.

THE SHANGHAI MUNICIPALITY.—*Heating and Cooking Apparatus for hire:*—The Engineer's recommendations in respect to the tenders received in response to Municipal Notification No. 2048 are approved as follows:—

1.—That as delivery of *Radiators* cannot be guaranteed in time for the hire of these before Spring, tenders for these will again be called then, so that they will be in use towards the end of 1911.

2.—That in view of the probable large demand for hire of *Cookers* of which the economy and convenience is certainly to be recognized, 12 of these appliances be ordered instead of 6 and that the lowest tender £185 10s. be accepted. 3—That for the same eight ovens be ordered instead of 4, and the tender of the Shanghai Electric and Asbestos Co. for £107 4s be accepted.

4—That likewise 12 combined ranges and grills, instead of 6, be ordered, and the tender of the Shanghai Electric & Asbestos Co. for £13 18 0 be accepted.

5.—That for *Therol Water Heaters* the tender of Messrs. Jardine, Matheson be accepted for £409 for 10 of these appliances of the larger sizes with accelerators, and for 10 more of a smaller size, including certain spare parts.

The names of the unsuccessful tenderers are as follows, their tenders being in a form which does not admit of the usual published tabulated schedule:—

Messrs. Arnhold Karberg & Co.
F. Henrion.
Melchers & Co.
Samuel, McGregor & Co., Ld.
Scott Harding & Co.
Shewan, Tomes & Co.
Siemens China Electrical Engineering Co.
Siemssen & Co.
Rose, Downs & Thompson.

## PROPOSALS INVITED.

BUREAU OF PHILIPPINE CONSTABULARY.—Shoes.—Sealed proposals in triplicate will be received at the office of the Chief Supply Officer, Bureau of Constabulary, Old Oriente Building, Manila, until ten a. m., February 17, 1911, and then opened in the presence of attending bidders, for furnishing the Bureau of Constabulary 10,000 pairs of shoes.

Bids must be accompanied by samples.

Time for delivery to be stated in proposal and to be considered in awarding contract.

Samples may be seen and blank proposals obtained at the office of the Property Officer, Bureau of Constabulary, Old Oriente Building, Manila.

As a guarantee of good faith each proposal must be accompanied by a certified check for ten per cent of bid. Letter of guarantee from bank will be accepted in place of check.

PUTTEES. — Sealed proposals in triplicate, subject to the usual conditions, will be received at the office of the Chief Supply Officer, Bureau of Constabulary, until ten a. m., January 11, 1911, and then opened in the presence of attending bidders, for furnishing the Bureau of Constabulary.

1,000 pairs of puttees, woolen, spiral, for officers.

Bids must be accompanied by samples.

Time for delivery to be stated on proposal and to be considered in awarding contract.

Samples may be seen and blank proposals obtained at the office of the Property Officer, Bureau of Constabulary, Old Oriente Building.

As a guarantee of good faith each proposal will be accompanied by a certified check for ten per cent of bid. Letter of guarantee from bank will be accepted in place of check.

PUBLIC WORKS DEPARTMENT, SYDNEY, NEW SOUTH WALES.—Coal loading plant capable of delivering into ships' holds about 1,000 tons of coal per hour at each side of a new jetty to be erected at Port Kemble, South Coast, N. S. W. Contractors' Room, Public Works Department, Sydney; and office of the Agent General of New South Wales, London. Bids opened January 9th, 1911.

PHILIPPINE PORT WORKS.—Sealed proposals in quadruplicate for the construction of a Causeway, Roadway, Wharf, and Storage Shed at Bais, Negros Oriental, in accordance with the plans and specifications, will be received at this office until 11:00 a. m., January 3, 1911, and then publicly opened.

Plans and specifications may be obtained upon application at the office of the Director of Navigation, Manila, P. I., the Engineer in Charge of Port Works at Iloilo, or the Engineer in Charge of Port Works at Cebu, P. I.

SHANGHAI MUNICIPALITY.—The Council is prepared to receive tenders for the supply of shovels, pickaxes and similar tools, to be delivered on or before March 15, 1911, as follows:—

| | |
|---|---|
| 650 | Steel navy shovels with eye handles. |
| 100 | Square navvy shovels with eye handles. |
| 220 | Pickaxes (heavy). |
| 300 | Pickaxe handles. |
| 100 | Steel digging spades with eye handles. |
| 25 | Transplanting spades. |
| 25 | 5-inch rivetted Dutch hoes. |
| 25 | 6-inch ,, |
| 25 | 16-tooth garden rakes. |
| 25 | 10-tooth ,, |
| 75 | 6-inch rivetted garden trowels. |

Full particulars and all necessary information may be obtained upon application to the Public Works Department, Hankow Road, where samples may be seen.

Sealed tenders endorsed "Tender for Tools" will be received by the undersigned not later than 5 p. m. on Friday, December 30.

The Council is prepared to receive tenders for the supply and delivery on or before June 30, 1911, of the following materials for uniforms, etc., in the undermentioned quantities:—

| | |
|---|---|
| 1,000 | prs. British Army Pattern Ankle Boots. |
| 100 | yds. Blue Beaver cloth, No. 1 quality. |
| 25 | yds. Blue Beaver cloth, No. 2 quality. |
| 2,000 | yds. Blue Beaver cloth, No. 3 quality. |
| 3,800 | yds. Indigo Blue Serge. |
| 900 | yds. Khaki Woollen Serge. |
| 2,600 | yds. Grey Cotton Lining. |
| 200 | Light Gabardine Raincoats, khaki. |
| 200 | Constables' Blue Cloth Capes |
| 50 | prs. Blankets, white, 63-in. by 80-in., 6-lb. |
| 100 | prs. Blankets, brown army, 68-in. by 90-in., 10-lb. |

Samples and patterns and other requisite information may be obtained on application at the Police Store, Gordon Road Depot.

Sealed tenders endorsed "Tender for Uniform Materials" will be received by the undersigned not later than noon on Thursday, January 12, 1911. Tenders for each item will be considered separately.

PROPOSALS FOR FRESH VEGETABLES.—Headquarters Philippines Division, Office Chief Commissary, Manila, P. I., December 15, 1910. Sealed proposals in triplicate, subject to usual conditions, will be received at this office until 11 o'clock a. m., February 1, 1911, at which time and place they will be opened in the presence of attending bidders for furnishing and delivering to the Subsistence Department, U. S. Army, Manila, P. I., such quantities of fresh potatoes and onions as may be required from time to time during period from March 1, to June 30, 1911. About 600,000 pounds potatoes and 120,000 pounds onions will be required per month. Each proposal must be accompanied with a bidder's guaranty in the amount of $5,000.00 or with certified check for that amount on a bank of approved standing in Manila. The bidder to whom award is made will be required to give bond, the penalty of which will be fixed by the Chief Commissary. Blank forms, specifications and all necessary information can be obtained on application to this office. Envelopes containing proposals should be marked "Proposals for Fresh Vegetables to be opened February 1, 1911," and addressed to the undersigned.—D. L. Brainard, Lieut. Col., D. C. G. Army, Chief Com'y.

Sealed proposals in triplicate, subject to the usual conditions, will be received at the office of the Chief Supply Officer, Bureau of Constabulary, Old Oriente Building, Manila, until ten a. m., April 10, 1911, and then opened in the presence of attending bidders, for furnishing the Bureau of Constabulary

35,000 pairs of cotton socks.

Blank proposals may be obtained at the office of the Property Officer, Bureau of Constabulary, Old Oriente Building, Manila.

Sealed proposals in triplicate will be received at this office up to 11 a. m. December 22nd, 1910, when they will be opened in the presence of the attending bidders, for furnishing ENGINE and CYLINDER OILS for the period from January 1st, 1911, to June 30th, 1911.

Proper forms and specifications may be had on application to this office. Wm. T. Nolting, Acting Purchasing Agent.

PROPOSALS FOR INTER-ISLAND TRANSPORT: Headquarters Philippines Division Office of Chief Quartermaster, Manila, P. I. November 28th, 1910. Sealed proposals, in triplicate, subject to the usual conditions, for furnishing this Department with one Ocean Going Steamer, suitable for Inter-Island Traffic, will be received here until 11:00 A. M., February 8th, 1911, and then publicly opened. Information and blank forms furnished upon application. F. G. Hodgson, Assistant Quartermaster General, U. S. Army. Chief Quartermaster.

# PHILIPPINE MINING NEWS

NUEVA ECIJA DEVELOPMENT.—Philippine mining circles are greatly interested in the activity of Australian capitalists in the placer fields of this province. Recently Mr. Begg, representing capital to the amount of £100,000 arrived from Sydney to expert the ground of the Rio Chico Gold Dredge and Mining Company whose holdings cover over 1,000 acres on the Rio Chico and Rio Cabu.

It is also understood that another Australian group are negotiating for other properties on the Cabu and it is expected that a dredge will soon be ordered.

About 2,000 hectares in all have been bored in this field and tests ranging from eighteen cents gold to fifty-two cents gold have been realized on preliminary boring, and also demonstrating that a large percentage of the ground is sufficiently attractive to warrant more complete investigation and development. Some of the ground has been thoroughly tested under option and while no official statement has been given out, we are informed that a dredge has been contracted for which would indicate that the preliminary report has been confirmed.

The Nueva Ecija prospectors are benefiting from the experience of older districts and are proceeding more intelligently and conserva-

tively in developing their properties. Working agreements whereby the owners receive a percentage of net returns seem to be more popular with the owners of the ground than a transfer of property for a percentage of stock. As one prospector put it:

"We are making the 'ante' as small as possible for the mining companies. We are ready to give them exclusive rights to work our ground and take a percentage of net returns for our share The company interested simply backs its judgment after thoroughly investigating to the extent of the dredge and reaps a reward commensurate with its enterprise and judgment. This arrangement reduces the amount of capital required if purchase of land were involved and gives the owner participation in profits at a fixed ratio. Returns will thus be regulated by values and fairly divided. If the ground proves worthless through some drawback unforeseen, the company is free to abandon the project without being burdened with valueless property. There have been some reports in circulation that owners of Philippine mining ground have discouraged investment by asking excessive prices for their rights. This is not true in Nueva Ecija. We let the fences down to capital and are ready to take a reasonable share of the net values as our portion."

It is understood that the Cabu Mining Company has concluded arrangements for the installation of machinery on their property on the upper Cabu.

THE PARACALE DISTRICT.—The new dredge ordered by the Gumaus is expected installed by August, 1911, on the company's property in this district.

Last month 73 ounces of gold were received at Manila from the Philippine company's dredge representing eleven days' saving.

The examination of the Paracale Extension property by Mr. R. V. Hanlon, a mining engineer recently arrived from Korea, has been in progress with a view to securing a final report on the property preparatory to active development. This ground was formerly experted by Mr. Kane whose report placed the average values at ₱1.05. It is understood that plans for a dredge have already been completed by two Australian experts familiar with conditions in the district and that if Mr. Hanlon's report is favorable its construction will be promptly undertaken and the machinery installed by the end of 1911.

The Paracale Gold Dredging Company's stamp mill, recently arrived to handle the rich boulders found on the ground, will be in operation in January. The installation of a second dredge is being considered by this company.

THE BENGUET DISTRICT.—The Benguet Consolidated reports 130 ounces for November. The installation of the Headquarters plant is progressing and development work continues.

The opening of two good leads on the Bonanza which lies east of the Headwaters is reported.

THE GOVERNMENT COAL MINES.—In his report, Secretary Dickinson has recommended that an additional appropriation be made for the purpose of continuing the development of these deposits.

THE BATAN COAL MINES.—The installation of two of the new coal cutters has been effected and by January four will be operating, increasing the capacity to 300 tons a day. A new system of chamber mining has been introduced.

COAL IN MOROLAND.—Reports from Zamboanga are to the effect that a deposit of coal has been discovered near Margosatubig.

THE SAN MAURICIO MINE.—The mill was shut down early this month on account of the flooding of the lower levels following the heavy rains. Mr. Ripley, who is in charge of the Manila offices, stated that the season's torrential rains which have fallen this year at Mambulao have proved too much for the boiler capacity of the plant. The lower level is flooded and is draining off through the tunnel at the first level.

A shipment of 70 tons of concentrates valued at $3,500 gold has gone forward and a shipment of 65 tons is on the way from the mine. One hundred and twenty five ounces of bullion were also realized up to the date of the flooding, with the mill running very irregularly during November.

# FAR EASTERN RAILWAY NEWS

THE CANTON-HANKOW RAILWAY.—A correspondent of the *North China Daily News* gives an account of his trip over this line to the railhead from Canton for a distance of 58 miles. The fare for the trip was Tls. 2 first class and the speed did not exceed 20 miles an hour. Of the construction and prospect of the line extension, he writes:

"Many sections of the line above what is opened have been worked on, and it was said that the hope is entertained that the line will be opened as far as Yingtak city, sometime about the beginning of 1912. There are more engineering difficulties encountered farther on, and these are considerable in the mountain gorge, known locally as 'The Blind Boy's Pass.' But these are being overcome. Still sometime must elapse before the line is opened as far as Yingtak, and longer still before it reaches Shiuchou city, and beyond this, we believe, nothing further has been done, or even seriously contemplated. At the rate things are going, some years must pass before the line is laid through the range of mountains which separates the Kuangtung province from the province of Hunan. Some of us will be greyer still before we can get from Canton to Peking by rail, and the run, at least in the south, will not be one to be undertaken without a generous willingness to meet sundry inconveniences."

JAPANESE LIGHT RAILWAYS.—Charters have been granted the following light railways to be operated by steam power:

The Uwonuma Railway (between Mitsuji and Kakegawa)—Length, 8 miles; steam power; capital, 200,000 yen.

The Tomo Railway (between Tomo and Fukayama)—Length, 7 miles; steam power; capital, 200,000 yen.

The Chugoku Railway (between Harakoisai-inari and Kakegawa)—Length, 1 mile; steam power; capital, 75,000 yen.

The Mimasaka Railway (between Tsuyama and Emi)—Length, 16 miles; steam power; capital, 800,000 yen.

The Awa Railway (between Tokushima and Komatsushima)—Length, 7 miles; steam power; capital, 650,000 yen.

The Kada Railway (between Wakayama and Kada)—Length, 5 miles; steam power; capital, 650,000 yen.

The Ise Railway (between Tsu and Yokkaichi)—Length, 21 miles; steam power; capital, 500,000 yen.

The Chiba Railway (between Narita and Tako, and Kashiwa and Noda)—Length, 13 and 9 miles; steam power; capital, 410,000 yen.

The Yoshino Railway (between Yoshinoguchi and Kitada)—Length, 7 miles; steam power; capital, 200,000 yen.

The Railway Board is now considering the following applications:

The Nose Myoken Railway (between Ikeda and Yoshikawa)—Length, 10 miles; steam power; capital, 500,000 yen.

The Hanbi Railway (between Emi and Kamigori)—Length, 16 miles; steam power; capital, 800,000 yen.

The Chuwo Railway (between Kawaguchi and Iwatsuki)—Length, 13 miles; steam power; capital, 800,000 yen.

The Shimotsui Railway (between Shimotsui and Chayamachi)—Length, 12 miles; steam power; capital, 300,000 yen.

The Ikomayana Railway (between Osaka and Nara, between Yokkaichi and Komono and between Ihara and Kasaoka)—Total length, 52 miles; steam power; capital, 2,050,000 yen.

BURMA RAILWAYS.—The receipts for the half year amounted to Rs. 41, 34, 395, an increase over the corresponding term in 1909 of Rs. 42,392.

CHINESE SECTION OF THE KOWLOON-CANTON RAILWAY.—The opening of the first section of 30 miles from Canton to Tong Mei was celebrated, December 5, by an excursion over the line. A special train of two combination first and second class coaches, four third class and two third class and van combined. A 101-ton locomotive purchased from the North British Locomotive Works, Ltd., pulled the train to the railhead slightly under one hour's running on the outward trip and 40 miles an hour on the return. A luncheon was served at the Tai Sha Ton terminus. The guests included the leading British and Chinese officials and speeches were made by Taotai Sha., H. E. Chao, the managing director, Mr. Frank Grove, chief engineer, Mr. J. W. Jameson, C. M. G., British Consul General, H. E. Wai Han, the late director general, Mr. John Johnstone representing the British and Chinese Corporation and the Hon. H. E. Pollock, K. C., in the absence of Mr. L. A. Bergholtz, American Consul General. In the evening Chief Engineer Groves entertained to dinner.

The construction of the Chinese section was begun in 1908 and, according to the best expert opinion, will be completed and in operation by July 1, 1911. Rails have been laid from the British end at Lo Wu and also from Tong Mei while construction work is in progress on the two remaining sections. The bridging of the East River Valley offers the greatest difficulty, but the material is already on the ground and construction under way. There are three spans of 224 feet each and two of 60 feet each. The length of the Chinese Section is 87 miles.

THE STANDARD GAUGE IN JAPAN.—The discussion over the widening of the railway gauge in Japan continues and the opponents to the measure point to the condition of finances as a reason for the postponement of the project. However, last month the cabinet decided upon the early realization of the plan in principle and favored the early reconstruction of the Tokyo-Shimonoseki line and it is not improbable that the work will be completed simultaneously with the Antung-Mukden and the standard gauge would prevail throughout.

The original plan was to spread this work over a period of thirteen years at the rate of 10,000,000 yen annually, but the sentiment in favor of speedy reconstruction will no doubt prevail.

THE KIRIN-CHANGCHUN RAILWAY.—A report from Mukden is to the effect that the rails have been laid seven miles from Changchun towards Kolunchieh, the end of the first section, and work is progressing rapidly with a view to opening the entire section to traffic by the first of the year.

THE HEILUNGCHANG RAILWAY.—Viceroy Hsi-liang has announced his approval of the selection of Tiehling as the western terminus of the line on account of the proximity of Tiehling to the Liao River and the advantage of water transportation from that point. The alternative of Kaiyun, which is situated about 18 miles from the Liao, is turned down by the Viceroy for the reason that the line would become a feeder of the South Manchuria Railway and would divert the traffic from Yinkou to Dairen.

KOREAN RAILWAY NEWS.—The new railway station at Fusan, constructed at a cost of Yen 300,000, was completed last month. Light railways between Masan and Mokpo, Wonsan and Hombeung, and Chongjin and Hoilyong are projected and plans and estimates are being prepared.

FORMOSAN RAILWAY.—The following excerpt is from the report of the Governor-General of Formosa:

"The principal organs of land communication are the Government railways, private railways of the sugar refinery company and other light railways. The Government railways which are opened to traffic are 248 miles between Kilung and Takuo, 13 miles 7 chains between Daito-tei and Tamsui, 10 miles 6 chains between Takuo and Kyukyokudo and a part of the Arisan railway which was opened to traffic on Oct. 1st, its mileage being 9

# FAR EASTERN ENGINEERING, CONSTRUCTION, COMMERCIAL AND FINANCIAL NEWS

miles 8 chains. The Taito light railways are 34 miles 5 chains between Karenko and Bas-shisho and 32 miles 2 chains between Shin-kaien and Hinan so that the total mileage is 348 miles 5 chains. Private railways worked by steam power in the year 1907 there were only 19 miles 5 chains, but the mileage has suddenly increased and at present the total mileage reaches 446 miles and 3 chains, and when the mileage of those lines applied for is included the total mileage will run up to 623 miles 4 chains. The line is intended for the purpose of collecting the material for sugar and for the purpose of the conveyance of goods. With the increase of the emigrants and the development of industry there is every tendency for the increase of the mileage. The total number of rolling stock needed for sugar manufacturing purposes is at present 55 engines, 43 passenger cars, 8 vans, and 3796 freight cars. The hand pushing light railway was first built at a time of the occupation of the island by our military department for the purpose of the conveyance of military goods but since then it has been allowed to be used for the benefit of the public. At present the total mileage of this railway numbers 177 miles 9 chains and the number of rolling stock is 2538. Besides there are 55 miles 3 chains of unfinished lines and 8 miles 4 chains of the lines for which applications have been made. The total capital needed for the management is 504,000 yen. These lines are all managed by either companies or associations. These cars are pushed by coolies, and freight cars are but poorly constructed though the economic and public interests given by these lines are quite numerous. These freight cars compared with the usual mode of conveyance adopted by the natives are, however, more or less effective and the fare is comparatively lower, while the speed is quite large. The dividend of these companies ranges from 10% to 20% annually and since there is every prospect of increase it goes without dispute that they will be useful in the economic development of the island."

---

SUPPLY OF RAILWAY MATERIAL.—Messrs. The Weldless Steel Tube Company, Limited, Birmingham, have an order from the Burma Railways for the supply of steel ferrules and the Vulcan Foundry Company for locomotive spares and duplicate parts. Messrs. Jas. Reid and Company, Limited, England, are supplying the South Indian Railway Company with steel fish-bolts and nuts for 50lb. steel metre gauge rails and Messrs. Horton and Company, Limited, with steel fish-bolts and nuts for 41¼lb. rails. Messrs. Blockow, Vaughan and Company, Limited, had a large order for the supply of angle steel fishplates for 41lb. rails to the South Indian Railway; Messrs. G. Cooper and Sons, Limited, Sheffield, for dog-spikes; and Messrs. Guest, Keen and Nettle-folds, Limited, London and Birmingham, for bearing plates for timber sleepers. Messrs. Burn and Company, Howrah, have an order from the East Indian Railway Company for supplying iron and steel work complete with columns, trusses, etc., for ten goods sheds on the H. K. section; supplying and erecting iron and steel work for 63,000 square feet open shed for the new Howrah station; and iron and steel work for six third class waiting sheds at various railway stations on the Hooghly-Kawata Branch. They are also supplying to the North-Western Railway the iron and steel work for a large goods shed at Badami Bagh; and to the Bengal-Nagpur Railway and Oudh and Rohilkhand Railway a large quantity of 6 feet 60 feet girders, besides undertaking to supply on order a locomotive for a privately-owned Light Railway Company. Messrs. Hurst, Nelson and Company, Limited, Glasgow Rolling Stock and Plant Works, Motherwell, N.B., are supplying the steel underframes and ironwork, etc., for 66 covered goods bogie wagons and 50 open goods bogie wagons to the Bengal-Nagpur Railway for their narrow 2 feet 6 inch gauge extensions. Messrs. Stapleford and Company, Limited, have an order for the supply of the underframes and bogies, etc., for eight composite 1st and 2nd class carriages, five intermediate and third class carriages and eighteen 3rd class carriages for these extensions. Messrs. Orenstein and Arthur Coppel have in hand at present an order for a locomotive 50 h.p. for coal and liquid fuel together with a number of heavy iron box wagons for a stone quarry; one mile of track with a number of wagons and switches for railway construction work; 1½ mile track with 25 wagons for one of the biggest sugar factories out here and 40,000 dog-spikes for B.G. section rails ordered by two of our State Railways. Messrs. W. Bain and Company, Limited, England, have a large order for the supply of "Dacoit" fencing materials to the East Indian Railway; and Messrs. Verity's Limited, London, for the supply of a large quantity of electric lamp and fan fittings. Messrs. J. Pain and Sons, Limited, England, have just supplied 5,000 fog signals to the East Indian Railway; Messrs. J. Reid and Company, Limited, 72,000 enamelled labels; and the British Westinghouse Engineering and Manufacturing Company, Limited, London, six voltmeters for the Electrical Department of this Railway.—*Railways and Shipping.*

---

THE FUKIEN RAILWAY CO.—The Amoy correspondent of the *China Mail* refers to a meeting of directors to consider plans for a change of route and writes:

"In consequence of the almost prohibitive cost of bridging the North River so far down as the present stone bridge, commonly known as the 'Pholam Bridge,' but more correctly as the Kang Tang Kio, which is the nearest and most natural route to the city of Chang Chow Fu, it is now suggested to take the line along the northern bank of the North River as far up as the town of Pholam, and then to build a bridge across the river at that point, curving round southwards to the city of Chang Chow Fu. It would of course make the distance from Amoy to Chang Chow Fu considerably longer, but it would tap two most lucrative sources of income, the very large North River area at a much more accessible point. and the extensive Tio Thoa, or Chang Ta, County. It would require two smaller bridges, as well as the bridge across the North River, one over the Tio Thoa river, and one over a smaller tributary, both of which enter the North River from the northern bank. But probably the total cost of the three bridges would be much less than the estimated cost of the bridge originally proposed nearer the mouth of the river. Undoubtedly such a modification of the scheme would bring a much larger revenue than the first proposal, but I should fancy the Chang Chow people would much prefer the original scheme, since it will of course take a much longer time to get to Amoy if the railway runs round via Pholam. It will mean the adding of rather over twenty miles to the distance."

---

CANADIAN PACIFIC RAILWAY ACTIVITY.—An annual report of the Canadian Pacific Railway shows sales of agricultural lands during the year ended June 30, 1910, aggregating 975,030 acres for $14,468,564, being an average of $14.84 per acre, according to U. S. Consular reports. Irrigated land brought $26.59 per acre, so that the average of the balance was $12.78. The company will spend $8,500,000 on the eastern section of the irrigation block to provide water, the work to extend over three years.

The number of passengers carried was 11,172,-891, as against 9,784,450 the year previous. Tons of freight carried jumped in a year from 16,549,610 to 20,551,868. The system, with its varied activities, railways, steamships, hotels, elevators, workshops, lands, town sites, and irrigation works, represents an investment of $526,250,289, in addition to 12,000,000 acres of land in Manitoba, Saskatchewan, Alberta, and British Columbia. The railway and its equipment represents $317,226,265 of this amount.

---

THE HANGCHOW-NINGPO RAILWAY.—Tide-water bridges at Hangchow and Pahkuan are the most difficult features of construction on this line, but progress is reported. A large force is engaged working from the Ningpo end toward Yu yao and the work of grading is progressing on the other end of the line. It is not probable that the end of 1911 the line will be operating with a ferry making connections across the Chin-Tang river.

## ELECTRIC RAILWAYS, LIGHT, POWER, TELEPHONES, TELEGRAPHS, AEROPLANES, ETC.

ELECTRIC SUPPLIES IN MANCHURIA.—U. S. Consul Roger S. Greene, of Harbin, writes:

"The Chinese are at present much interested in electric-lighting enterprises for their principal cities. There is one in operation at Kirin City, an American company having just made a contract with the taotai of Changchun for the installation of a lighting plant there, and the authorities of Heilungchiang are now asking proposals for machinery to be installed at Tsitsihar, the provincial capital, capable of operating 5,000 lights, and lighting equipment for 3,000 lights to begin with. Tsitsihar is supposed to have about 50,000 inhabitants. It is not now of great commercial importance, but when the Chinchou-Aigun Railway is built it is likely to become a flourishing trade center.

"There are in the Valleys of the Sungary and its tributaries in the western parts of Heilungchiang Province a number of new and growing towns—Hulan, Suihwafu, Tunkun, Hailun, Bayanchou, etc.—which have a promising future, as they are situated in a very fertile region, and some of them are easily accessible by water in the summer. Most of them are larger than Tsitsihar. A railroad is projected to connect several of these towns with the Chinese Eastern Railway near Harbin. In Kirin Province also there are a number of promising towns which might be induced to purchase small lighting plants or telephone systems, as, for example, Shuanchenpu, Ashiho, Ninguta, etc. In none of these places can anything be done on a very great scale as yet, and the negotiations, even where there is real business in sight, are likely to be long and trying, but for those who intend to enter the field seriously the effort ought to be worth while.

"In Harbin, the only important European settlement in Manchuria, there is no central lighting system, but there are 15 or more private plants, many of which sell light to their neighbors. As soon as the settlement is organized the question of establishing a central electric lighting plant, street railways, and probably a new telephone system, will come up. There is now an inadequate telephone system here operated by the railway company. The annual subscription for one instrument comes to about $60. Electric light costs from 13 to 16 cents per kilowatt hour, charges having been considerably reduced lately on account of the installation of a new plant. The population of Harbin is estimated at about 60,000 to 75,000.

"There are agents of European companies here, who carry ordinary small electrical supplies in stock. Other stores also carry European electrical supplies. These people have hitherto done little business with the Chinese, their efforts being mainly devoted to the European.

---

PHILIPPINE WIRELESS.—The work of the wireless telegraph board has been completed and its recommendations forwarded to Washington. The principal high power stations will

be established at Manila, Corregidor, Olongapo, Iloilo, Cebu and Zamboanga and smaller stations will connect up every section in the archipelago. The high power stations will have a radius sufficient to connect up with China and Japan and probably the Straits Settlements.

---

SARAWAK-SINGAPORE CABLE.—The survey of a cable route was undertaken in October by the "Magnet," the cableship of the Eastern Australasian and China Telegraph Co., to connect up those two points.

---

KOREAN ELECTRIC LINES.—Plans are under way to connect Seoul and Chemulpo with an electric line and construction has been ordered begun on an electric line between Lanan and Chongjin.

---

FOOCHOW ELECTRIC LIGHT.—Representatives of British, American, German and Japanese firms have been competing for the contract to instal a plant for the new company recently organized.

---

SHANGHAI MUNICIPALITY ELECTRICAL SUPPLIES.—According to the *Municipal Gazette* the following indents were approved for dispatch to the London Agents:

| *Firm* | *Article* | *Cost.* |
|---|---|---|
| Bullers Ld. | Insulators and pliers | £29 |
| L. Scott & Co., Ld. | Vacuum Gauges | 2 |
| A. Wright & Co. | Gauges and thermometers | 10 |
| Ferranti Ld. | Insuiating material | 10 |
| Buck & Hickman | Tools, etc. | 22 |
| Brit. Electric Transformer Co., Ltd. | Repairs to Transformers | 20 |
| The Library Bureau, Ld. | Correspondence files and accessories | 42 |
| do. | Ledger desk and accessories | 56 |
| The Addressograph Co. Ld. | Addressograph and accessories | 85 |
| Kenrick & Jefferson | "Multigrip" current Binders and Renewal leaves | 37 |

---

ELECTRIC PLANT FOR CORREGIDOR.—The Secretary of War has recommended an appropriation of $150,000 gold for this installation to provide current for electric light for illumination, searchlights and power for wireless.

---

JAPANESE ELECTRIC RAILWAYS.—The following charters have been granted:

The Chita Railway (between Atsuta and Tokoname)—Length, 19 miles; electric power; capital, 700,000 yen.

The Hachi-Hei Railway (between Hiratsuka and Hachioji)—Length, 24 miles; electric power; capital, 300,000 yen.

The Echizen Railway) between Fukui and Ono)—Length, 21 miles; electric power; capital, 430,000 yen

The following applications are under investigation:

The Himeji Railway (between Himeji and Yamazaki)—Length, 17 miles; electric power; capital, 750,000 yen.

The Yamazaki Railway (between Hashizaki and Yamazaki)—Length, 11 miles; electric power; capital, 500,000 yen.

The Sangu Railway (between Nagoya and Uji)—Length, 65 miles; electrie power; capital, 12,000,000 yen.

---

AEROPLANES FOR JAPAN.—A machine of the Lebaudy type has been secured by the Japanese Investigation Committee through the Mitsui Bussan Kaisha and two additional machines have been ordered from Europe. This will make four under investigation besides the local inventions.

THE EASTERN EXTENSION TELEGRAPH CO. The report for the half year shows gross receipts £345,000 over the corresponding period, 1909, and the net receipts £171,000, the working expenses showing a decrease of £4,600. A dividend of 5% for the term was paid, £50,000 carried to reserve and £72,760 carried forward.

---

THE EASTERN TELEGRAPH CO., LTD.—The gross receipts for the half year amounted to £664,500, an increase of £71,900 over the corresponding terms, 1909 the total expenditure was £283,800 and increase £4,900. £175,000 were carried to general reserve and £60,000 carried forward.

---

PEKING TELEPHONE SYSTEM.—The Imperial Chinese Telephone Administration expects to have the new system installed and operating by May 1911. The Western Electric Company of New York and London supplied the plant and Messrs. P. Carey and A. J. Pierson, electrical experts, are representing the company. *The Peking Daily News* describes the system as follows:

"The system is known as the common battery (magneto) system, which has been in operation in the United States for more than twelve years.

"Two telephone exchange buildings have been erected. The first is a large foreign edifice, of red brick, on the Hatamen road, below the Ketteler memorial; the second exchange building is in the Chinese city, to the west of Chien-Men and close to the Tartar city wall.

"Three thousand telephones are being put up, but the plant will admit of an increase up to 12,000, as the switch-boards, at each of the two "exchanges," have been designed each with a capacity of 6,000 telephones.

"The telephone wires have been laid under ground. This, although it has increased the initial outlay, will greatly reduce the subsequent cost of maintenance, as no damages to poles or wires, caused by gales, etc., will have to be reckoned with. The cables are of lead tubing 3½ inches in diameter, and contain 400 wires. The wires are wrapped loosely in paper, the function of the paper being merely to hold the wires apart. The cables are laid in earthenware pipes.

"The system is practically this: instead of ringing a small bell for about half an hour, the person who wishes to "call" the "exchange," simply takes the microphone (or receiver) off the hook. This closes the circuit, and immediately a small lamp, in front of the operator's switchboard, is set alight. The operator then plugs the hole near the lamp signal. This plug is connected by a cord to another plug with which the operator plugs the hole belonging to the number asked for. The whole process is beautifully simple and saves much time, inasmuch as there is no endless ringing or shouting for the operator. The two speakers cannot be disconnected without the receiver being put back on the hook. The telephones, being without batteries, will never get out of order; there is a common battery, at the central exchange for the whole system."

---

THE ILOILO TELEPHONE SYSTEM.—The Iloilo Telegraph and Telephone Company began operations the first of the month with over a hundred members and orders for many more.

---

SABANG BAY WIRELESS.—The *Java News* states that "the wireless station (Telefunken system) at Sabang will be ready next April. The stations at Sitohbondo, Timor Koepang and Ambon must be ready respectively in July, September and December of next year.

"When the station at Sabang will be in operation, the Netherlands Indies will be the first country of this part of the world where such an installation exists. It is true that there is one at Bombay, but of very short distance only. Wireless stations are building at Colombo and Singapore, but the one at Sabang will be ready before those."

NATIONAL CONTROL OF WIRELESS.—General Allen, Chief of the U. S. Signal Corps, in his annual report, recommends the national control of wireless communication in peace and war. There are now fiften military wireless stations in Continental America.

---

PHILIPPINE MILITARY TELEGRAPH AND TELEPHONE SYSTEM.—The cables laid include fire control in connection with defence of Manila Bay, 10,336 miles; Legaspi-Liguan cable 14.5 miles; land wires 34 miles; twenty telephone exchanges aggregating 437 phones and four long distance with 106 miles of wire. The wireless stations in the islands include Manila, 1 Kilowatt; Fort McKinley, .75 Kilowatt; Fort Mills .175 Kilowatt and a 10 Kilowatt station at Fort Mills and a 1 Kilowatt station at Fort Wint were under construction.

---

## PUBLIC WORKS, DOCKS, WHARVES, BUILDINGS, ETC.

PHILIPPINE LIBRARY BUILDING.—The Philippine Assembly is considering a bill appropriating ₱300,000 for a public library building of reinforced concrete in Manila.

---

NEW SEWERAGE SYSTEM FOR SINGAPORE.—Consul General James T. Du Bois makes the following report:

"The municipality of Singapore has under consideration extensive improvements in the sewerage system of this city which will involve an expenditure of about $2,500,000.

"The plans have not been perfected, but permission has been granted to make the improvement, and as Singapore seriously needs a new sewerage system and as public opinion demands it, there seems no doubt that the important change will be undertaken as early as possible. For this reason American contractors are notified of the contemplated improvement that they may, if desired, take preliminary steps, such as requesting the municipal authorities of Singapore to give them details of the proposed work.

"The location of Singapore, especially the business portion, is only about 7 feet above tide water and the suburbs have some swampy sections, so that the proposed drainage must be accomplished by pumping and purifying works. The city of Singapore has a population of about 280,000, of which only 4,000 are Europeans, but there are thousands of well-to-do Chinese, Eurasians, and Indians here, and an entirely new lavatory system must be instituted if the work is carried out. This will create a great demand for toilet furnishings, a large proportion of which must be constructed to meet the peculiar demands of Chinese, Malays, and Indians, who constitute over 90 per cent of the population."

---

THE WHANGPOO CONSERVANCY.—During the quarter ended September 30 the entire expenditure amounted to Tls. 559,889.12. Dredging stopped August 13 and represented in all 162,676 cubic yards of which 112,671 were pumped behind the R. W. Burding Woosung and the balance dumped from barges behind dams. On the Woosung outer bar training works 26,429 tons of rock were used for filling in between concrete blocks in the top works and on the stopes of jetty and training dyke. This work is urged continued without interruption.

---

NEW SUPREME COURT AT CANTON.—This building is being erected at a cost of Tls. 70,000.

---

SALT WATER SYSTEM FOR SINGAPORE.—The Municipal Commissioners have arranged to expend $100,000 (Straits Cur.) for the installation of a salt water system to be utilized for street sprinkling and flushing the drains.

---

CHEMULPO WATERWORKS.—This system which was recently completed occupied over four years in construction and cost 2,400,000 yen. The *Seoul Press* gives the following description:

"The water-source of the waterworks is in the Han River, a mile above the railway

bridge. The pumping station stands on the left bank of the river, outside the prosperous town of Noyangjin. The grounds cover an area of 25,000 yards and contain an engine house, three settling basins, and four filter beds. The engine-house is a solid and beautiful building constructed of bricks and stone, while the settling basins are constructed of stones and the filter beds, constructed of concrete, are entirely covered with arched roofs. Both of these have respectively a total capacity of 560,000 cubic feet, sufficient for two days' consumption by a population of 70,000. A clear-water basin on a hill just behind the pumping station, about 300 feet above sea level, receives water pumped up from the station. It has a capacity of 140,000 cubic feet, sufficient for half a day. Water is led from this basin to a distributing reservoir at Chemulpo by means of the main pipes, 20 inches in diameter and about 18 miles in length. The distributing reservoir at Chemulpo is on the top of a hill called Songim San, about 200 feet above sea level, standing to the northeast of the town. It has a capacity of 560,000 cubic feet, or two days' maximum supply. The basin, which is divided in three sections, is chiefly constructed of concrete and entirely covered with arched roofs. The capacity of the waterworks has been so made as to furnish a supply of 280,000 cubic feet of water a day, on a basis of 4 cubic feet per head of 70,000 inhabitants, the possible population in the near future being estimated as follows: Koreans, 30,000; Japanese and foreigners, 25,000; and 15,000 for ships watering at the port. The pumps, engines and other machines, as well as pipes used were mostly manufactured in Japan. The chief items of expenditure and their amounts in round figures were: business part of work, 321,800 *yen*; construction work at Noyangjin, 449,700 *yen*; construction of the distributing reservoir, 147,200 *yen*; work of laying pipes, 1,034,000 *yen*; and machinery, 186,100 *yen*."

PHILIPPINE BRIDGE CONSTRUCTION.—Governor General Forbes has sent a recommendation to the Assembly with regard to the ₱500,000 to be utilized in the construction of joint railway and highway bridges.

DEVELOPMENT OF A PORT AT NAN LIEN BAY.—The American engineer secured by Viceroy Hsi Liang to make a survey of this bay submitted two plans for developing the harbor and the one that provides for bunding 4.5 miles long and to cost Tls. 3,000,000 has been adopted. The work will take five years to complete. This is the proposed new ice free port for Manchuria

THE KRIAN IRRIGATION SCHEME.—With the expenditure of $23,000 (Straits Cur.) in 1911 this project will be completed. The entire cost is $1,600,000.

JAPAN'S PUBLIC IMPROVEMENTS.—Consul Carl F. Deichmann, of Nagasaki, furnishes the following information:

"A number of municipal and national projects are underway for public improvements in this district.

"One of the estimates of the Home Department is for the improvement of the Shimonoseki Straits, viz, $6,474,000, which is to extend over a period of ten years; it is also planned to enlarge the Government Iron Works at Wakamatsu until the plant is large enough to supply the entire demand of Japan for steel and iron. Harbor works are planned for the ports of Kagashima and Oita, in the Island of Kyuchu, the money therefor to be raised jointly by the municipalities and prefectures, assisted by the Government. The city of Fukuoka-Hakata is planning a water-works system to cost $2,988,000, toward which the Government is expected to be a large contributor. It will take three years to complete the works.

"The budget for the next fiscal year is to contain an item of about $300,000 to make the Fukuoka Medical University independent of the Kyoto University. It will be called the Kyushu University, and engineering and scientific colleges will be added to the medical college."

VLADIVOSTOCK HARBOR WORKS.—An appropriation of 13,000,000 roubles has been asked for to improve this harbor. This will include the construction of three new piers and warehouses covering an area of 16,000 square yards and extend the basin.

SWATOW WATERWORKS.—It is reported that the construction of these works has been undertaken by a British firm in Hongkong.

LIAO RIVER CONSERVANCY.—The Viceroy of Manchuria has asked for authority to dredge the river and construct strong retaining walls on both sides of the river.

PHILIPPINE LUMBER FOR CHINESE EMPEROR'S MAUSOLEUM.—The S. S. Hellas cleared from Zamboanga for Shanghai last month with 700,000 feet of lumber consigned by the Port Banga Lumber Co. to the Chinese Government. Many of the logs measure four feet in diameter and 40 feet in length.

## SHIPBUILDING, GENERAL MARINE AND FISHERIES

BLUE TUNNEL RECORD.—The S. S. Teucer is reported to have made the distance between Victoria and Yokohama in 12 days, 15 hours and 53 minutes during her last transpacific voyage.

PHILIPPINE SHIPPING.—During the fiscal year just past, the entire commercial intercourse with other countries to all ports of the Philippines was effected by 862 entrances and 872 clearances of vessels, representing an aggregate movement of 3,378,952* registered tons, as compared with 764 entrances and 750 clearances, representing an aggregate tonnage of 2,802,893 registered tons for the previous year, showing an increase of 576,059 registered tons. The value of the inward and outward cargoes amounted to $76,948,777, the greater part of which, that is to say, 73 per cent, was carried by vessels flying the British flag, 9 per cent by Spanish vessels, 6 per cent by German, 5 per cent by American, and 3 per cent by Japanese vessels. Considering the fact that the value of the products shipped to and from Great Britain amounted to $11,506,570 or 15 per cent of the total, and that the value of the products shipped to and from the United States amounted to $29,527,549, or 38 per cent of the total import and export trade.

NIPPON YUSEN KAISHA STEAMERS.—This company has placed orders for one steamer each of 6,000 tons with the Kawasaki Dockyards and the Mitsui Bishi Company and orders for four more of the same size will follow. These steamers will have a speed of 12 knots and take the place of the vessels of this company at present in the trans-Pacific service.

PHILIPPINES CUSTOMS LAUNCH.—The keel of a 23 knot launch of semi hydroplane type has been laid at the works of Mcdonald & Co. at Kowloon to the order of the Philippine Government. A sailing yacht designed on the pattern of the cup defender is being constructed by this firm to the order of Governor General Forbes.

THE NIPPON YUSEN KAISHA.—The following is a statement of accounts and distribution of profits for the last half year:

| | yen. |
|---|---|
| Profits during the term ........ | 2,348,085 |
| Balance brought forward from last term .................. | 858,616 |
| Total ............... | 3,206,701 |
| To be distributed as follows:— | |
| To reserves .................. | 117,404 |
| To the replenishment funds of navigation line bounty and navigation encouragement bounty ...... | 1,073,432 |
| Allowance to directors and auditors. | 59,465 |
| Dividends to shareholders (10 per cent per annum, viz. 2.50 yen per share) ............ | 1,110,000 |
| Balance to be carried forward to next term .................. | 856,400 |

During the half year term between April 1 and September 30 the company employed on its various lines 69 steamers of the aggregate tonnage of 281,000 tons of its own fleet and eight chartered steamers of the aggregate tonnage of 31,000 tons. The quantity of cargo and the number of passengers carried by those vessels during the period was 1,490,000 tons and 111,000 persons respectively in round figures. The total mileage run reached 1,610,000 odd nautical miles.

THE TSINGTAU DOCK COMPANY.—The s. s. Foo Mu, constructed by this company for the Chinese Government, arrived at Shanghai early this month.

THE JAPANESE ANTARCTIC EXPEDITION—This expedition consisting of 28 members under the command of Lieutenant Shirase sailed on board the Kainan-maru from Shibourá, Toyyo, on November 28th. The vessel is a three masted schooner of 200 tons having a length over all of 100 feet, 22 foot beam, and a depth of 12 feet. The expedition expects to complete the voyage to Edward VII Bay, a distance of 7,170 miles, by February next.

CUTTERS FOR CUSTOMS SERVICE.—The Philippine Collector of Customs has recommended the construction of two fast cutters for the patrol of southern waters.

TRAWLERS FOR THE PHILIPPINES.—A company has been formed in Manila for the purpose of exploiting the deep sea fishing industry. Two steam trawlers have been ordered from England and more will be added as the operations of the company extend.

THE MITSU BISHI DOCKYARDS.—The following is a list of the vessels under construction at these works which have concluded a very active year:

Yamakaze, an ocean-going torpedo-boat destroyer with turbine engines;

Second class cruiser for the Imperial Navy, turbine engines;

Three steel water-boats, each of 24 tons, for the Imperial Navy;

Shinno-maru, for the Toyo Kisen Kaisha, a sister-ship to the Tenyo-maru and Chiyo-maru, 13,700 tons, 16,850 horse-power, turbine engines;

Gunboat for the Chinese Navy;

Shelter-deck steamer for the Nippon Yusen Kaisha, 6,000 tons, 5,500 horse-power.

Canada-maru three-deck steamer, 6,000 tons, 5,000 horse-power, for the Osaka Shosen Kaisha,

During the year two large vessels for the Osaka Shosen Kaisha of over 6,000 tons and 5,200 h. p. each, were completed, and an ocean going torpedoer and two steam trawlers will be completed by the end of the year.

THE VULCAN IRON WORKS.—The trial trip of the new motor launch constructed by the Vulcan Iron Works of Shanghai for Messrs. Garner Quelch & Co. took place last month. This is the tenth boat of this type to local order constructed by this company. It will be used for harbor work and is 35 feet in length.

NEW JAPANESE BATTLESHIP.—Messrs. Vickers, Son and Maxim have secured the contract for the construction of a new dreadnought cruiser of 27,000 tons. The contract price is £2,500,000. The entire vessel and armament is to be of English material and construction.

DOCK PUMPING PLANT CONTRACT.—The Cannon Street and Hammership Hammersmith Works have secured the contract for supplying for the pumping plant of the new graving dock at Singapore. The pumps are to be installed by the end of 1911.

San Francisco-New Zealand Line.—The Union Steamship Company of New Zealand proposes establishing connections between the colony and San Francisco every 26 days, calling at Tahiti. It is understood thet the company has secured a sufficient subsidy to carry out this plan.

The Kiangsi Steam Navigation Co., Ltd. —This new company has been organized with a capital of Tls. 200,000 for the purpose of acquiring the plant and good will of the Hsiang Chong Ship Company established at Nan Ching, Kiukiang and Woo Ching and to carry on and develop the business in Poyang Lake.

Toyo Kisen Kaisha Subsidy.—The state subsidy for 1911 amounts to yen 3,000,000, of which yen 2,500,000 will go to North American service which includes the Tenyo, Chiyo and Nippon while the balance will go to the three steamers on the South American run.

Compania Trans-Atlantica New Steamers.—The steamers Isla de Panay and the Fernando Poo are to be superseded by new steamers each of 10,000 tons displacement with accommodation for 90 first class passengers and 60 second class. They have a speed of 16 knots an hour. These vessels will make their first trip to Manila from Barcelona in March and April of next year respectively.

Canadian Pacific Activity.—The construction of two new vessels of the type of the Empress of Ireland and the Empress of Britain in the Atlantic service is proposed by the directors of this company for the Pacific Ocean.

The Labuan S. S. Company, Ltd.—This is the name of the new company recently organized with a capital of $50,000 for the purpose of developing the carrying trade in Brunei Bay and around Labuan. The s. s. Krang has been purchased for this work.

Lloyd's Returns.—The report for the quarter ending September 30 places the number of vessels under construction in the United Kingdom at 360 representing 1,154,197 tons gross. Of the steamers 341 are of steel with a gross tonnage of 1,149,914 and of 5 of wood and composite with a gross tonnage of 570, while of sailing craft there were 14 of steel tonnage 3,004,8 wood and composite with a gross tonnage of 709. The total increase over the corresponding quarter 1909 was 78 vessels and in gross tonnage 376,161.

The total of warships under construction in royal dockyards includes one battleship, two protected cruisers, two third class cruisers and two submarines, representing 75,630 tons displacement, and at private yards 5 battleships, 3 armored cruisers, 5 protected cruisers, 33 torpedoers, 2 scouts and 7 torpedo destroyers making a total in private yards of 60 vessels of 236,885 tons displacement or a grand total of 67 warships with a displacement of 312,515 tons.

Germany's activity is represented by 50 vessels, exclusive of warships, aggregating 139,117; the United States next with 66 vessels and an aggregate tonnage of 117,603, followed by France with 22 vessels with gross tonnage of 91,426.

## MINES, MINERALS AND THE METAL TRADE, MACHINERY, ETC.

The Oriental Consolidated Mining Company.—The report for the year contains the information that the total receipts amounted to $1,434,494, the operating expenses $780,258 and the net profit $654,236. The amount of $30,559 was expended in development work. The net profit shows an increase of $67,307 compared with the corresponding term the previous year. The plant was increased, a battery of ten stamps added to one of the mills. A dividend of 50 cents gold was declared last month making $1 so far for this year.

The Tongkah Tin Dredging Company.—The Siamese Government has released this company from its contract to construct a dock and dredge a channel in the harbor under an agreement whereby the company pays a lump sum to the Government.

The Kamuning Rubber and Tin Company.—This company reported a net profit from its tin mining operations of £5,292. This property is situated in Perak and the deposits are worked on the tribute system.

Shensi Oil Wells.—A report has been received from Shensi to the effect that a company capitalized at Tls. 6,000,000 has been organized for the purpose of developing the oil deposits and a charter has been asked for.

F. M. S. Tin Export.—The total export for the ten months ended October 31, exclusive of Upper Perak and Pahang, is represented by 580,047 piculs, a decrease of 49,521 compared with the corresponding period, 1909, while the increase in values amounted to $1,835,000 (Straits Cur.) approximately.

Mindoro Sugar Mill.—The machinery for the mill to be installed on the island of Mindoro having a capacity of 2,000 tons of cane daily, will begin to arrive next month. It is supplied by the Honolulu Iron Works. The site for this plant has been prepared and eleven miles of railway for transportation purpose have been laid. The mill is expected to be ready to take care of the 1911 crop.

Raub Returns.—For the four weeks ended October 9 gold returns amounted to 766 ounces bullion from 4,758 tons of rock crushed and for the succeeding four weeks 653 ounces.

The Chinese Engineering and Mining Company, Ltd.—The gross profit for the year was £243,000 and a credit balance for the year of £210,574. Of this amount £10,000 was set aside for redemption of debentures; £30,000 carried to reserve for depreciation, leaving a net profit of £170,574. An interim dividend of 1s. 6d. per share was paid in May and an additional dividend of 1s. 6d, making 15% for the year, was recently declared. The year covered was concluded on February 28, 1910.

The output of the mines amounted to 1,359,502 tons, an increase of 133,500 tons over previous year, while the sales increased 86,788 tons. The capacity of the mines as now equipped is 2,000,000 tons yearly and the estimated quantity of coal in sight at the end of the year was 9,000,000 tons. The feature of the year was the invasion of the Pacific Slope market by the shipment of 5,000 tons to San Francisco as preliminary to more active operations. Also the appointment of an agent in the Dutch Indies. Competition in the home trade has been keen owing to the activity of the Japanese mines in Manchuria and the Lanchow mines in the Keiping Basin.

Manchurian Mineral Wealth.—The *Journal of the Yokohama Chamber of Commerce* reviews the extent of the mineral deposits of the Eastern Provinces as follows:

"Manchuria has iron mines on the Antung-Mukden Line and at Saimachi, Tunghua and Puaijan. None of them can compare with Tayeh in respect to the percentage of iron contained in the output. As the hoard of iron in the world is fast being drawn upon, these mines of about 50 per cent. grade may come to attract notice in due order of things.

"Chiapikon, situated on a tributary of the Sungari and at 150 miles southeast of Kirin, suggests itself as the first gold mine of Manchuria, but, after long years of constant operation, this mine appears quite exhausted and is reported to have sunk below commercial workability.

"There are a few other gold mines, besides, considered to be worth trying although what returns they may give remains an open question.

"Alluvial deposits may be found in the rivulets running down the hills near Chinkang on the Antung-Mukden Line. None of them are, however, good enough to warrant working upon. At Yuanchiatun, about 2½ miles east from Pulantien, traces of experimental mining carried on under the Russian regime are still visible. This can imply in no sense that it is promising, but only that at any rate it may be worth looking into. The same may be said of the gold mine of Laotieheshan near Port Arthur.

"There is a good sized vein of marble four miles from Wanchialing. Its product is of fine quality, but not milkwhite in colour. Another vein of much more considerable extent lies four miles from Tashihohiao. The marble is not quite as good as that of the other mine. The location of this mine, however, commands larger facilities of transportation, and this coupled with the large scale on which it occurs invites careful inquiry. Its output is being used in place of granite and as material for the piers of railway bridges near Tashihchiao.

"Limestone may be found almost ubiquitously in Manchuria. How the Chinese could go without cement prior to its introduction by Westerners was perhaps because they had any amount of limestone at easy command."

The Fushun Coal Mines.—For the six months ended September 30, the total of coal exported by these mines from Port Arthur and Dairen was 147,242 tons and of this amount Hongkong received 27,000 tons, Chemulpo, 19,500 tons and the balance was distributed among Yokohama, Moji, Fusan, Chefoo, etc.

Dredging in Siberia and Russia and Siberia in 1909.—The *Mining Journal* reviews the report of the Permanent Consultative Bure u of Gold and Platinum Industrialists covering the work of 48 dredges out of a total of 55 in operation and refers to the increase in values won by the average dredge compared with previous years. The *Journal* says:

"A comparative table of the work done over the past four years shows a remarkable improvement in the precious metal won per dredge, and a presumably better financial result to the proprietors. Thus in the years 1906, 1907, 1908, and 1909, the quantity—average—per dredge was 2 poods 22 funts 24 zolotniks= 1,347 ozs.; 2 poods 6 funts 67 zolotniks= 1,142 ozs.; 2 poods 28 funts 91 zolotniks= 1,434 ozs.; and 3 poods 17 funts 53 zolotniks =1,811 ozs. respectively. In the same series and order of years, the number of hours worked per dredge was 2,837 6, 2,259.23, 2,502.24, and 2,771.7 hours respectively, and the quantity of sand or gravel raised and washed was 12,562.2 cubic sazhen=159.538 cubic yards; 10,965 33 cubic sazhens=139,256 cubic yards; 13,099.49 cubic sazhens=166,357 cubic yards; and 14,715.92 cubic sazhens=186,881 cubic yards.

"Thus we find that in the year 1909 the average quantity of ground raised and washed per dredge had increased by 1,616 cubic sazhens=20,523 cubic yards over that of the preceding year, or 12.4 per cent., and there was an increase of gold produced of 28 funts, 69 zolotniks=378 ozs., or 26.2 per cent.

"The feature in the returns to which the report calls attention is that whereas the quantity of ground raised and washed made 12 4 per cent. more than in the preceding year, the quantity of precious metal won increased at over double that rate, or 26.2 per cent. The conclusion drawn from this gratifying situation is that the gold industrialists, taught by bitter experience, have set themselves to work on richer sands. This observation appears to be justified by the fact that in 1909 the gold yield per cubic sazhen (12.7 cubic yards) rose to 86 15 dolies=123 oz., against 76.65 dolies=109 oz. in the preceding year."

Standard Oil Activities.—A report has been received to the effect that the Standard Oil Company proposes developing its oil deposits in the Dutch Indies.

## FINANCIAL, COMMERCIAL AND MISCELLANEOUS NEWS

THE PHILIPPINE AGRICULTURAL BANK—During the fiscal year 1910, 148 applications were made for loans, amounting to ₱494,574. The number of loans granted was only 89, amounting to ₱229,000. Five loans, amounting to ₱7,200, were repaid. Delinquent interest on 5 loans amounted to ₱1,415.24. Three loans amounting in principal and interest to ₱14,045.24 were pending on foreclosure proceedings.

The total amount loaned by the bank at the close of the fiscal year 1910 amounted to ₱284,450 or approximately 28½ per cent of the bank's capital. Of this amount only 5½ per cent was placed during the fiscal year 1909, and 23 per cent during the fiscal year 1910.

STRAITS SETTLEMENTS TRADE.—Reviewing the trade returns for the last quarter the *Singapore Free Press* says:

"The total value of merchandise imported in the last quarter was $90 213,662. Of this amount Singapore took $65,924,6(8. The figures for the corresponding quarter of 1909 were $78,797,140. Of this Singapore took $57,-712,156. The totals of exports were $82,882,605. Of this Singapore sent $55,607,110. The figures for 1909 were $70,887,614 Of this Singapore sent $46,854,944. The value of gold coin imported was two and a half million dollars, and exported half a million. Machinery imports showed a considerable drop, but motor cars, etc., rose from $173,159 in 1909 to $482,320 in 1910. There was an increase of a hundred thousand dollars in the value of woollen cloths imported, most of which appears to have stayed here. Piece goods also rose from seven hundred thousand to eleven hundred thousand, a large quantity being retained. Plain cottons remained about the same, but all other classes under the cotton goods heading increased considerably in value. Oils remained mainly steadfast, except that the benzine trade naturally grew to a considerable extent. Para rubber imports rose from a million and a half dollars value to nearly three millions, whilst the exports reached a total of five millions in value.

INTERNATIONAL COTTON M'F'G CO.—The report for the year ended September 30 shows a profit of Tls. 21,316.10.

FORMOSAN SUGAR & DEVELOPMENT CO.—The report for the year ended June 30 shows a profit of £27,212. After writing off interest, depreciation on plant, machinery, buildings, railroad, goodwill, etc., a balance remains of £13,898, to which must be added the balance brought forward, making £14,350. The directors recommend a dividend of 20 per cent. on the ordinary shares, and setting aside £526 for directors' fees and for reserve fund £1,389, leaving to carry forward £4,889.

MANILA'S MOSQUITO CRUSADE.—The success of the crusade against the night mosquito has resulted in a proposal to maintain a permanent eradicating force.

PHILIPPINE POSTAL BANKS.—The Bureau of Posts and Telegraphs has opened 44 new branch banks in twenty different provinces and the Governor General proposes distributing prizes among the school children who give the best evidences of thrift.

JAPANESE POSTAL SERVICE INNOVATION.—Letter carriers are to be intrusted with collection debts. The charges are to be 3 *sen* for a debt of 1 *yen* or less; 4 *sen* for 3 *yen*; 5 *sen* for 5 *yen*; 6 *sen* for 10 *yen*; 8 *sen* for 50 *yen*, and 10 *sen* for 100 *yen*. With regard to sums exceeding a hundred *yen*, 5 *sen* additional will be charged for every hundred *yen*, says the *Japan Mail*. In order to avail oneself of this facility it will be necessary to be enrolled in the Savings Transfer List of the Post Office Banks. The post office will of course be responsible for money collected and in case of money not collected the charge will be 2 *sen* without reference to amount of obligation. A debtor will be dunned three times per month, and failure to obtain payment will then entail a fresh commission from the creditor.

FORMOSAN TEAS PRODUCTION.—The estimated crop of tea for 1910 is placed at 20,000,000 pounds, an increase of 1,000,000 pounds compared with last year.

The shipments of Formosa Oolong tea to America have amounted to 6,945.860 pounds via Pacific and 4,026,956 pounds via Suez, a total of 10,972,816 pounds. Shipment of Oolong tea to other countries: England, 515,-159; Australia, 61,561; China, 1,932; Germany, 19,596; a total of 598,248 pounds. The total shipments to September 1, including 3,500,000 pounds of Powchong, reach 15,071,064 pounds.

F. M. S. SUPPLY ENACTMENT.—The following are the principal items in the supply enactment as sanctioned by the federal council:

| | | |
|---|---|---|
| 1. | Pensions and Retired Allowances | $404,468 |
| 2. | The Rulers and Native Officers | 503,686 |
| 3. | The High Commissioner | 43,236 |
| 4. | Resident General, Federal Secretariat and Cadets | 168,791 |
| 5. | Residents | 185,861 |
| 6. | British Agent, Treng ganu | 11,123 |
| 7. | Treasury | 90,082 |
| 8. | Audit | 95,732 |
| 9. | District and Land Offices (including S'ment Offices) | 733,909 |
| 10. | Courts | 170,674 |
| 11. | Legal Adviser | 28,545 |
| 12. | Trade and Customs | 249,401 |
| 13. | Marine and Fisheries | 168,969 |
| 14. | Chinese Departments | 57,752 |
| 15. | Mines Department | 239,988 |
| 16. | Geological Investigation | 12,511 |
| 17. | Forest Department | 411,193 |
| 18. | Agricultural Department (including Govt. Gardens and Plantations) | 131,417 |
| 19. | Indian Immigration | 199,729 |
| 20. | Education | 375,780 |
| 21. | Medical | 1,402,919 |
| 22. | Post and Telegraphs | 943,578 |
| 23. | Surveys | 1,227,658 |
| 24. | Police | 1,048,694 |
| 25. | Prisons | 315,264 |
| 26. | Museums | 35,231 |
| 27. | Bands | 15,060 |
| 28. | Government Printing Office | 89,993 |
| 29. | Municipal (Sanitary Board, etc.) | 928,647 |
| 30. | Malay States Guides | 413,539 |
| 31. | Expenditure under Volunteer Enactment, etc. | 34,416 |
| 32. | Census | 95,000 |
| 33. | Transport | 54,100 |
| 34. | Exchange | 6,500 |
| 35. | Purchase of Land | 112,400 |
| 36. | Miscellaneous Services | 296,850 |
| 37. | Railways (including additions to Capital Expenditure) | 5,462,906 |
| 38. | Railway constructions | 5,206,169 |
| 39. | Public Works Department | 1,056,589 |
| 40. | Public Works Annually Recurrent | 2,625,325 |
| 41. | Public Works Extraordinary | 4,484,775 |
| | Total | $30,138,460 |

PHILIPPINE CURRENCY CIRCULATION.—"On June 30, 1910, there were ₱25 805,000 silver certificates in the Treasury vaults and ₱22,797,454 in circulation, a total of ₱48,-602,454. During the year mutilated silver certificates were destroyed, as follows: Full value, ₱5,167,812; half certificates, ₱51,50; total ₱5,167,863.50. This sum deducted from the amount of certificates existing at the close of the preceding year leaves ₱43,434,-590-new notes.

"The total amount of money in circulation in the Islands on June 30, 1910, was ₱48,754,697.36, as compared with ₱41,528,-607.74 on the same date in 1909, showing an increase of ₱7,226,089.62.

COPRA IN THE FEDERATED MALAY STATES.—There are 123,815 acres in cocoanuts of which two-thirds are bearing and the export of copra for 1909 amounted to approximately 7,000 tons.

KOREAN COTTON INDUSTRY.—A company has been formed with a capital of Yen 10,000,-000 to engage in the cultivation of cotton in Chosen and it is proposed to amalgamate with another company engaged in the same adventure having a capital of Yen 2,000,000.

BRITISH AND CHINA CORPORATION.—The profits for the year amounted to £11,478 making a total to credit of profit and loss of £23,198. A dividend of 10s. a share, or 10%, was declared.

MANILA'S DEATH RATE.—The report of the Bureau of Health for the quarter contains the information that the mortality rate was 34.93 compared with 43.18 for last year.

FORMOSAN SUGAR CROP.—The estimates place the 1909-10 production at 200,000 tons, of which 20,000 tons represent domestic consumption.

EWO COTTON SPINNING CO., LTD.—Profit and Loss account showed a credit of Tls. 78,407 recommended apportioned as follows:

| | | |
|---|---|---|
| To pay Dividend on Preference Shares at rate of 7% per annum | Tls. | 9,493.14 |
| To pay a Dividend of Tls 4 per share on 15,000 ordinary shares | ,, | 60,000.00 |
| To carry forward to New Account | ,, | 8,914.22 |
| | Tls. | 78,407.42 |

F. M. S. RUBBER.—The returns for October aggregate 600,000 pounds approximately.

RUBBER DIVIDENDS.—The Perak Rubber Plantations, interim of 12.5%; Vallambrosa, interim of ⅙; Singapore Para, 12 5%, Pegoh Rubber, final of 10% making 17% for year; Kuala Lumpur, final of 45% making 75% for the year; North Hummock, 25% for the year; Harpenden, 25%; Edinburg, 15%, Kellas, interim of 10%; Lanadron, interim of 12.5%; Ledbury 10% and Straits Plantations 6%.

TRADE OF CEBU TREBLED.—The report of the Cebu Customs shows an increase of collections from ₱75,518 in November 1909 to ₱233,000 in the November 1910.

## LONDON METAL MARKET

The following are (November 4) prices:—

| COPPER. | £ s. d. | | £ s. d |
|---|---|---|---|
| *Tough cake and Ingot | 61 10 0 | .. | 62 0 0 |
| *Best Selected | 61 10 0 | .. | 62 10 0 |
| *Electrolytic | 62 0 0 | .. | 62 10 0 |
| *Sheets and sheathing | 78 0 0 | .. | — |
| *Flat bottoms | 76 0 0 | .. | — |
| STANDARD †Cash | 57 18 9 | .. | — |
| STANDARD †Three Months | 58 17 6 | .. | — |
| *Copper tubes, seamless per lb. | 0 0 8½ | .. | — |
| *Lake | 62 5 0 | .. | 62 15 0 |

* Less 3½ per cent. † Net.

| ALLOYS. | | | |
|---|---|---|---|
| Brass: Wire | 0 0 6⅝ | .. | — |
| ,, Tubes (solid drawn) | 0 0 6⅝ | .. | — |
| ,, Sheets | 0 0 6⅝ | .. | — |

| TIN. | | | |
|---|---|---|---|
| English ingots, f. o. b. | 165 0 0 | .. | 166 0 0 |
| ,, bars | 166 0 0 | .. | 167 0 0 |
| ,, refined | 167 0 0 | .. | 168 0 0 |
| Straits... Cash | 165 10 0 | .. | — |
| Straits... Three months | 165 15 0 | .. | — |
| Australian spot | — | .. | — |
| Banka (in Holland) Cash | 166 0 0 | .. | — |
| Banka (in Holland) Three months | 166 10 0 | .. | — |

| LEAD. | | | |
|---|---|---|---|
| Spanish or soft foreign | 13 2 6 | .. | 13 3 9 |
| English pig, common | 13 6 3 | .. | 13 7 6 |
| ,, L. B. | 13 15 0 | .. | — |
| ,, sheet and bar lead | 14 17 6 | .. | — |
| ,, pipe | 15 7 6 | .. | — |
| ,, red | 15 15 0 | .. | — |
| ,, white | 18 5 0 | .. | — |
| ,, patent shot | 16 7 6 | .. | — |

| SPELTER. | | | |
|---|---|---|---|
| Silesian ordinary brands | 24 0 0 | .. | 24 1 3 |
| ,, special brands | 24 0 0 | .. | 24 10 0 |
| English Swansea | 25 0 0 | .. | 25 10 0 |
| Sheet zinc | 29 5 0 | .. | — |

| ANTIMONY. | | | |
|---|---|---|---|
| Antimony | 27 0 0 | .. | 29 0 0 |
| ,, Crude | 12 0 0 | .. | 13 10 0 |
| ,, Ore (basis 50%) | 7 0 0 | .. | 8 0 0 |

| QUICKSILVER. | | | |
|---|---|---|---|
| Flasks, 75 lbs. warrants | 8 7 6 | .. | — |

| ALUMINIUM. | Per ton. | | Per ton. |
|---|---|---|---|
| 98-99 per cent. | 70 0 0 | .. | 72 10 0 |

| NICKEL. | Per ton. | | Per ton. |
|---|---|---|---|
| 98-99 per cent. guaranteed | 167 10 0 | .. | 171 0 0 |

# FAR EASTERN STOCKS AND QUOTATIONS

*Courtesy of Messrs. Kadoorie & Co., Hongkong, December 3, 1910.*

| STOCK. | WHEN ESTABLISHED | CAPITAL | NO. OF SHARES | VALUE | PAID UP | RESERVE | AT WORKING ACCOUNT | DATE | LAST DIVIDEND. | Approximate Yield per cent per annum at Present Quotation | CLOSING QUOTATIONS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **BANKS.** | | | | | | | | | | | |
| Hongkong & Shanghai Banking Corporation | 1865 | $15,000,000 | 120,000 | $125 | $125 | g £1,500,000<br>s $16,000,000<br>i $250,000 | $2,029,390 | 31-6-10 | £2. for first half year ending 30-6-10, @ ex 1\|9⅜ = $22.456 | 5% | $890 sales<br>£861 |
| National Bank of China, Ld. | 1891 | £699,475 | 10) 99,925 | £7 | £6 | c £4,099<br>$400,000 | $34,167 | 31-12-09 | $2 (London 3\|6) for 1903 | .... | $80 buyers |
| **MARINE INSURANCES.** | | | | | | | | | | | |
| Canton Insurance Office, Ld. | 1881 | $2,500,000 | 10,000 | $250 | $50 | $1,600,000<br>j $268,696<br>u $305,181 | Nil. | 31-12-08 | $15 for 1909 | 8½% | $182 sales |
| North China Insurance Co., Ld. | 1903 | £150,000 | 10,000 | £15 | £5 | g £125,000<br>s Tls. 225,000<br>u Tls. 368,644<br>f Tls. 137,308 | Tls. 205,719 | 30-6-10 | Final dividend of 7½% for 1909 making 15% in all.... | 5% | Tls. 120 buyers |
| Union Ins. Society of Canton, Ld. | 1867 | $3,100,000 | 12,400 | $250 | $100 | s $3,000,000<br>g £90,000<br>f $287,984<br>j $1,449,735<br>u $713,985 | 2,552,545 | 31-12-09 | Final of $20 per share, making in all $50 per share for 1908, and an int. div. of $30 per share for 1909 | 6% | $825 buyers |
| Yangtsze Ins. Association, Ld. | 1889 | $1,200,000 | 12,000 | $100 | $60 | $1,000,000<br>j $371,802<br>£169,861 | $797,602 | 31-12-09 | $12 for year ending 31-12-08 and interim of $3 on account of 1909 | 7¾ | $195 |
| **FIRE INSURANCES.** | | | | | | | | | | | |
| China Fire Ins. Co., Ld. | 1870 | $2,000,000 | 20,000 | $100 | $20 | $1,000,000<br>x $550,348<br>f $61,168 | $438,406 | 31-12-09 | $6 and bonus $2 for 1908 | 7% | $116 buyers |
| Hongkong Fire Ins. Co., Ld. | 1868 | $2,000,000 | 8,000 | $250 | $50 | $1,460,000<br>j 81,153 | $426,218 | 31-12-09 | $27 for 1908 | 8% | $353 buyers |
| **SHIPPING.** | | | | | | | | | | | |
| China & Manila Steamship Co., Ld. | 1882 | $750,000 | 1) 30,000 | $25 | $25 | i $57,734 | Dr $3,777 | 31-12-09 | $4% for 1906 | .... | $8 |
| Douglas Steamship Co., Ld. | 1883 | $1,000,000 | 20,000 | $50 | $50 | $230,000<br>i $100,589 | Nil. | 30-6-10 | $2½ for year ending 30-6-1908 | .... | $20 sellers |
| Hongkong, Canton & Macao Steamboat Co., Ld. | 1865 | $1,200,000 | 80,000 | $15 | $15 | s $250,000<br>d. i. $630,000<br>f $130,545<br>$ 19,106 | $18,026 | 30-6-10 | Dividend of $1½ for half year ending 30.6.1910 | 8½% | $31 |
| Indo-China Steam Navigation Co., Ld. (Preferred)<br>Do. Do. (Deferred) | 1882 | m £600,000 | 2) 60,000<br>2) 60,000 | £5 | £5 | i £138,100 | £15,162 | 31-12-08 | 3% = 3\|- on Preferred shares only for 1910 | .... | $58 sellers |
| "Shell" Transport & Trading Co., Ld. | 1898 | £ 2,000,000 | 2,000,000 | £1 | £1 | £120,000<br>i £1,000,000 | £205,868 | 31-12-09 | Final div. of 2\|6 per share (coupon 14) making in all 4\|6 per share for 1909, and an int. div. of 1s. per share on % for 1910 | 5% | 82\|-sellers<br>£11 buyers |
| "Star" Ferry Co., Ld. | 1898<br>1900 | $200,000 | 10,000<br>10,000 | $10<br>$10 | $10<br>$5 | $6,500<br>i $55,830 | $1,159 | 30-4-10 | A dividend of 7% and bonus of 5% making 12% for year ending 30.4.1910 | 5%<br>6% | $23<br>$12½ |
| **REFINERIES.** | | | | | | | | | | | |
| China Sugar Refining Co., Ld. | 1878 | $2,000,000 | 20,000 | $100 | $100 | e $520,000<br>r $83,620 | Dr. $8,090 | 31-12-09 | $5 for half year ending 30-6-1910. | 6% | $125 |
| Luzon Sugar Refining Co., Ld. | 1882 | $700,000 | 7,000 | $100 | $100 | none | Dr. $101,851 | 31-12-09 | $3 for 1897 | — | $22 sellers |
| **MINING.** | | | | | | | | | | | |
| Chinese Engineering & Mining Co., Ld. | 1901 | £1,000,000 | 1,000,000 | £1 | £1 | d £215,000<br>h £12,289 | .... | .. | Final div. of 1\|6 for the year 1910 making 15% (coupon 15) | 9% | Tls. 16 |
| Headwaters Mining Co. | 1908 | ₱600,000 | 28) 600,000 | ₱10 | ₱10 | | | | First year | | ₱10 |
| Raub Australian Gold Mining Co., Ld | 1892 | £200,000 | 150,000<br>50,000 | £1<br>£1 | 18-10<br>£1 | £4,873 | Dr. .... | .. | 1\|2 per share, 13th div. | 5% | $6 sellers |
| Oriental Consolidated Mining Co. Ld. | .... | g $5,000,000 | 500,000 | g $10 | $10 | none | .... | .. | Final of gold $0.65 for 1909 in all g. $1.15 | .. | 32\|6 |
| **DOCKS, WHARVES AND GODOWNS** | | | | | | | | | | | |
| Fenwick (Geo.), & Co., Ld. | 1889 | $450,000 | z 18,000 | $25 | $25 | $25,275 | Dr $8,460 | 31-12-09 | $1⅛ for year ending 31-12-06 | .... | $5 |
| Hongkong & Kowloon Wharf & Godown Co., Ld. | 1886 | $3,000,000 | 60,000 | $50 | $50 | $550,000<br>t $31,993<br>i $40,000 | $4,848 | 31-12-09 | $2½ for 1909 | 4½% | $53 |
| Hongkong & Whampoa Dock Co., Ld. | 1866 | $2,500,000 | 50,000 | $50 | $50 | i $88,214<br>v $221,000 | $148,940 | 30-6-10 | 3% for half year ended 30-6-1909 | .. | $50 |
| Shanghai Dock & Engin'g Co., Ld. | 1906 | Tls. 5,570,000 | 13) 55,700 | Tls. 100 | Tls. 100 | Tls. 1,000,000 | .... | .. | Final of Tls. 3½ making Tls. 6 in all for year 30-4-1910 | 8% | Tls. 67½ |
| Shanghai & Hongkew Wharf Co., Ld. | 1902 | Tls. 3,600,000 | 36,000 | Tls. 100 | Tls. 100 | b Tls. 697,257<br>r Tls. 50,000<br>e Tls. 125,000 | .... | .. | Interim of Tls. 3 for 1910 | 7 | Tls. 97½ |
| **LANDS, HOTELS AND BUILDINGS.** | | | | | | | | | | | |
| Anglo-French Land Investment Co., Ld. | 1906 | Tls. 2,500,000 | 3) 25,000 | Tls. 100 | Tls. 100 | Tls. 35,000 | Tls. 4,314 | 29-2-09 | Tls. 6 for year ending 29-2-10 | 5⅝ | Tls. 97 sellers |
| Central Stores, Ld. | — | $751,845 | 16) 50,123 | $15 | $15 | n. $1,000 | $1,000 | 31-12-08 | 8% for 1909 | — | $11 |
| Hongkong Hotel Co., Ld. | 1866 | $600,000<br>$400,000 | 12,000<br>8,000 | $50<br>$50 | $50<br>$25 | $648,975<br>r $20,000 | $21,477 | 30-6-10 | $3 on old shares, $1.50 on new shares, for half year ending 30-6-10 | 5½% | $97<br>$70 |
| Hongkong Land Investment & Agency Co., Ld. | 1889 | $5,000,000 | 50,000 | $100 | $100 | e $250,000 | $27,971 | 31-12-09 | Interim of 3½ for 1910 | 7% | $100 |
| Humphreys' Estate & Finance Co., Ld. | 1887 | $1,500,000 | 150,000 | $10 | $10 | i $226,945<br>20) $25,856 | $5,471 | 31-12-09 | 45 cents for 1909 | 5¾% | $6½ sellers |
| Kowloon Land & Bldg. Co., Ld. | 1889 | $300,000 | 6,000 | $50 | $30 | none | $269 | 31-12-09 | $2½ for 1909 | 8% | $33 buyers |
| Shanghai Land Investment Co., Ld. | 1888 | Tls. 3,900,000 | 78,000 | Tls. 50 | Tls. 50 | Tls. 1,523.045<br>e Tls. 300,000 | Tls. 63,969 | 31-12-09 | Interim of Tls. 3 for 1910 | 6⅞ | Tls. 105 |
| West Point Bldg. Co., Ld. | 1889 | $625,000 | 12,500 | $50 | $50 | none | $1,958 | 31-10-09 | Interim of $1.80 for 1910 | 8⅞ | $39 |
| **COTTON MILLS.** | | | | | | | | | | | |
| Ewo Cotton Spinning & Weaving Co., Ld. | 1895 | Tls. 1,000,000 | 5) 20,000 | Tls. 50 | Tls. 50 | Tls. 250,000 | Tls. 10,991 | 31-10-09 | Tls. 11 for year ended 31-10-09 | 8½ | Tls. 90 |
| Hongkong Cotton Spinning, Weaving & Dyeing Co., Ld. | 1901 | $1,250,000 | 125,000 | $10 | $10 | e 20,000 | $26,297 | 30-7-09 | 50 cents for year ending 31-7-08 | .... | $4½ buyers |

# FAR EASTERN STOCKS AND QUOTATIONS—(CONTINUED.)

| STOCK. | WHEN ESTABLISHED | CAPITAL. | NO. OF SHARES. | VALUE. | PAID UP. | RESERVE | AT WORKING ACCOUNT. | DATE. | LAST DIVIDEND. | Approximate Yield per cent. per annum at Present Quotation. | CLOSING QUOTATIONS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| International Cotton Manufacturing Co., Ld. | 1895 | Tls. 750,000 | 6) 10,000 | Tls. 75 | Tls. 75 | Tls. 175,000 | Tls. 8,372 | 30-9-09 | Tls. 7½ for year end. 30-9-09 (10%) | 10% | Tls. 51 |
| Laou-kung-mow Cotton Spinning & Weaving Co., Ld. | 1895 | Tls. 800,000 | 8,000 | Tls. 100 | Tls. 100 | none | Tls. 4,829 | 31-12-08 | Tls. 6 for 1909 * | 10% | Tls. 50 |
| Soy Chee Cotton Spinning Co., Ld | 1895 | Tls. 1,000,000 | 2,000 | Tls. 500 | Tls. 500 | f Tls. 31,173 | Tls. 31,173 | | Tls. 35 for 1909 | 17% | Tls. 250 |
| **MISCELLANEOUS** | | | | | | | | | | | |
| Bell's Asbestos Eastern Agency, Ld. | 1895 | £5,377.10s. | 11) 8,604 | 12/6 | 12/6 | £1,500 | £797 | 31-12-09 | 15% for 1909 | | $8 sellers |
| China-Borneo Co., Ld. | 1903 | $720,000 | 8) 60,000 | $12 | $12 | $40,000 | Nil. | 31-12-08 | 5% for 1909 | 6½ | $10 sellers |
| China Light & Power Co., Ld. / Do. do. Special Shares | 1901 / 1907 | $300,000 | 50,000 / 17) 50,000 | $5 / $1 | $5 / $1 | none | $50,242 | 31-7-10 | 60 cents for year ending 28-2-06 | | 90 cts. buyers |
| China Provident Loan & Mortgage Co., Ld. | 1898 | a $1,250,000 | 7) 125,000 | $10 | $10 | $80,000 | $2,602 | 31-12-09 | 80 cents for 1909 | 10% | $7½ sellers |
| Dairy Farm Co., Ld. | 1896 | $300,000 | 40,000 | $7½ | $6 | l $10,000 / $10,000 | $1,850 | 31-7-09 | $1.20 for year ending 31-7-09 | % | $17½ buyers |
| Green Island Cement Co., Ld. | 1897 | $4,000,000 | 400,000 | $10 | $10 | $14,000 | $4,290 | 31-12-09 | Interim of 15 cts. per share for 1910 | 15 | $3½ |
| H. Price & Co., Ld | 1907 | $120,000 | 19) 15,000 | $10 | $10 | none | $1,923.87 | 31-12-09 | 14% viz $1.40 for 1909 | 12% | $12 |
| Hongkong Electric Co., Ld. | 1889 | $600,000 | 60,000 | $10 | $10 | none | $11,798 | 28-2-10 | A dividend of $1.20 per share and a bonus of 10 cts. per share for year end. 28-2-10. | 6½ | $20 |
| Hongkong Ice Co., Ld. | 1881 | $125,000 | 5,000 | $25 | $25 | k $150,000 | $12,662 | 31-12-09 | Interim of $2 pershare for 1910 | .... | $135 sellers |
| Hongkong Rope Manufacturing Co., Ld. | 1883 | $600,000 | $60,000 | $10 | $10 | $40,000 | $9,176 | 31-12-09 | Interim of $1 per share for 1910 | 9 | $18 sellerss |
| Maatschappij tot Mijn-, Bosch- en Landbouwexploitatie in Langkat | 1902 | Gs. 2,500,000 | 25,000 | Glds. 100 | Glds. 100 | 21 Tls. 547,500 / Tls. 547,500 / f Tls. 63,914 | Tls. 316,682 | 31-12-08 | 3rd Interim Div. of Tls. 15 making in all Tls. 37½ for 1910 | 5 | Tls. 1020 |
| Peak Tramways Co., Ld. / Do. (New) | 1907 | $750,000 | 25,000 / 50,000 | $10 / $10 | $10 / $10 | $20,000 | $3,014 | 30-4-10 | 80 cents on fully paid shares & 8 cents on $1 paid shares for year ending 30-4-10 | 5½ / 5 | $13 sellers / $1½ sellers |
| Philippine Co., Ld. | 1904 | $750,000 | 75,000 | $10 | $10 | none | Ps. 2,875 | 31-12-09 | None | .... | $8 |
| Robinson Piano Co., Ltd. | 1900 | $200,000 | 22) 4 000 | $50 | $50 | $5,000 | $61,138 | 31-8-08 | 6% for ½ year ending 30.9.07 | .... | $50 |
| Shanghai-Sumatra Tobacco Co., Ld. | 1902 | Tls. 600,000 | 9) 30,000 | Tls. 20 | Tls. 20 | Tls. 24,820 / w Tls. 100,000 | Tls. 5,250 | 31-10-08 | No dividend this year | 2 | Tls. 115 |
| South China Morning Post, Ld. | 1903 | $150,000 | 6,000 | $25 | $25 | none | Dr. $31,096 | 31-8-09 | None | .... | $25 |
| Steam Laundry Co., Ld. | 1902 | $100,000 | 20,000 | $5 | $5 | none | $127,86 | 31-5-10 | 50 cents for year ending 30-5-10 | 8 | $5 sales |
| Union Waterboat Co., Ltd. | 1905 | $500,000 | 15) 50,000 | $10 | $10 | w $11,956 | .. | 31-12-08 | 60 cents for year-end. 31-12-1908. | 6½ | $6½ |
| United Asbestos Oriental Agency, Ld. | 1896 | $100,000 | 10,000 | $10 | $4 | $46,000 | $471 | 31-5-10 | 15% per ordinary share for year ended 31-5-10 | 5 | $11½ sellers |
| Watkins, Ltd. | 1899 | $100,000 | 10,000 | $10 | $10 | none | $19,41 | 31-12-09 | 3½ for 1909 | | $3 sellers |
| Watson (A. S.) & Co., Ld. | 1886 | $900,000 | 90,000 | $10 | $10 | $300,000 / e) $25,000 | $1,776 | 31-12-09 | 3% for 1909 | — | $6½ |
| Weismann Limited | 1904 | $30,000 | 3,000 | $10 | $10 | $12,250 | $67 | 31-7-09 | 10 per cent for year endg. 31.7.08. | 10% | $12 buyers |
| William Powell, Ld. | 1901 | $105,000 | 15,000 | $7 | $7 | none | $782 | 30-6-09 | Final of 30 cents making 80 cents for year ending June 30th 1906 | .... | $2½ |
| Societe des Pulpes et Papeteries du Tonkin | | 660,000 | 13,200 | 50 Haiphong | 35 Currency | .... | .. | .... | First year | .... | $36 (Hk.Cy.) sel |
| **RUBBERS** | | | | | | | | | | | |
| Allagar Rubber Estates, Ltd. | 1909 | £85,000 | 29) 750,000 | 2/- | 2/- | .... | .... | .... | | .... | 5/- |
| Anglo-Malay Rubber Co., Ltd. | 1905 | £150.000 | 1,500,000 | 2/- | 2/- | .... | .... | .... | 80% for year ending 31.12.09 | .... | 24 |
| Balgownie Rubber Estate, Ltd. | 1905 | †† $200,000 | ‡‡ 20,000 | †† $1 | †† $1 | $7,400 | $11,205 | 31-3-09 | 40% interim. | .... | $10¾ [Singapore] |
| Castlefield Rub. Ld., [fully pd.] | 1906 | £35,000 | 27) 32,650 | £1 | £1 | none | .... | .... | | .... | 121/6 |
| Damansara (Selangor) Rub. Co. | 1906 | £110,000 | 25 110,000 | £1 | £1 | nil. | £2,220 | 31-12-08 | 50% for 1909 | .... | 152/6 |
| Golconda Malay Rubber Co. | 1907 | £80 000 | 26 80,000 | £1 | £1 | nil. | nil. | — | 25% for 1909 | .... | 102/6 |
| Highland & Lnd. Para R. Co. / Do. Do. [fully paid] / Do. Do. [partly paid] | 1906 | £310,000 | =181,454 / 123,546 | £1 / £1 | £1 / 15/- | £8,784 | .... | .... | 35% for 1909 | .... | 107/6 |
| Kamuning (Perak) Rb. & Tin Co. / do do A Shares / do do B Shares | 1909 | £200,000 | 950,000 / 105,000 | 2/- / £1 | 1/- / £1 | nil. | nil. | .... | | .... | 5/- prem. |
| Kuala Lumpur Rubber Co., Ltd. | 1906 | £180,000 | 180,000 | £1 | £1 | £4,000 | 1,82 | .... | 30% for 1909 | — | 165/- |
| Linggi Plantations, Ltd. (ord.) / Do. Do. (7% pref.) | 1895 Reconst | £100,000 | × 900,000 / 10,000 | 2/- / £1 | 2/- / £1 | .... | .... | .... | 50% interim | — | 47/3 |
| Ledbury Rubber Estates Ltd. / Do. Do. (contrib.) | 1908 | £125,000 | §§ 60,000 / §§ 40,000 | £1 / £1 | £1 / 7/6 | .... | .... | .... | 17½% for 1909 | .... | 71/- |
| Sagga Rubber Co. Ld. | 1903 | £20,000 | 24) 2,000 | £1 | £1 | nil. | nil. | .... | 25% for 1909 | .... | 270/- |
| Sandycroft Rubber Co. | 1904 | $100,000 | 50,000 | $2 | $2 | $20,000 | $1,275 | 31.1.08 | 50% interim | .... | $24 |
| Sekong Rubber Co., Ld | 1908 | £80,000 | 27) 80,000 | £1 | 12/6 | nil. | nil. | — | | .... | 11/3 prem. |
| Shelford Rubber State Ld. | 1906 | £65,000 | 65,000 | £1 | £1 | nil. | £836 | 31.12.08 | 7½% for 1909 | .... | 73/9 |
| Singapore & Johore Rb. Co., Ld. | 1903 | $250,000 | 2,500 | $2 | $2 | nil. | nil. | — | 25% interim | .... | $13 |
| Sungei Choh. Rb. State Co., Ld. | 1907 | £45,000 | 45,000 | £1 | £1 | nil. | nil. | .... | | .... | 92/6 |
| Sungei Kapar Rubber Co. | 1906 | £110,000 | 23) 110,000 | £1 | £1 | nil. | £3,448 | 31.12.08 | 37½% for 1909 | .... | 14/- |
| Toerangie Rubber Co. | 1910 | 30) £100,000 | 51,000 | £1 | 7/6 | .... | .... | — | First year | .... | par. |

| LOANS AND DEBENTURES. | AGENTS FOR THE LOAN. | AMOUNT OF LOAN. | PAR VALUE. | OUTSTANDING BONDS. | WHEN PAYABLE. | CLOSING QUOTATIONS. |
|---|---|---|---|---|---|---|
| China Government, 7 per cent. Silver Loan 1886 E. | Hongkong & Shanghai Banking Corporation. | Tls. 767,200 | Tls. 250 | 1914 | Mar. 31st and Sept. 30th each year until Mar. 31st, 1917 | par. |
| Hongkong Hotel Company, Ltd., 6 per cent. Mortgage Debentures of 1899 ‡ | | $750,000 | $500 | § all | Half yearly, June 30th and December 31st | par. |
| Shanghai & Hongkew Wharf Company, Ltd., 6 per cent. Debentures of 1902 | | Tls. 543,900 | Tls. 100 | ......... | Half yearly, June 30th and December 31st | Tls. 103½ |
| Astor House Hotel Company, Ltd., 8 per cent. Debentures of 1903 | | Tls. 500,000 | Tls. 100 | ......... | Half yearly, January 1st and July 1st | 102½ |
| Chinese Engineering & Mining Co., Ltd., 6 per cent. Debentures of 1903 † | ——— | £500,000 | ¶ | £431,960 | Half yearly, June 30th and December 31st | par. |
| International Cotton Manufacturing Co., Ltd. 7% Debentures of 1901 | Russo Chinese Bank | Tls. 500,000 | Tls. 100 | \|\| | Half yearly, March 31st and Sept. 30th | Tls. 97½. |

(Closing quotations: Plus Interest)

a Authorized capital $2,000,000.
b Building Reserve Account.
c Capital Reserve Fund.
d Depreciation Fund.
e Equalization of Dividend Fund.
f Exchange and Investment Fluctuation Account.
g Gold Reserve Fund
h Exchange and Reserve Account.
i Insurance Fund.
j Reinsurance Fund.
k Contingencies Account.
l Legal Reserve Fund.
m Authorized Capital
n Sinking Fund.
o Raw Sugar Reserve Account.
p Premium on New Issue.
q Boiler Repairs and Renewals Account
r Repairs and Renewals Account.
s Silver Reserve Fund.
t Depreciation and Repair Account
u Underwriting Suspense Account.
v Special account
w Special Works Fund.
x Extra Reserve Fund.
y 72,560 owned by the Company.
z 7,200 shares unissued.
1 4,000 shares unissued.
2 First issue of 60,000, of which 10,411 unallotted.
3 5,000 shares unissued.
4 4,480 shares unissued.
5 5,000 shares unallotted.
6 1,616 shares unallotted.
7 75,000 shares unissued.
8 14,000 shares unissued
9 17,000 shares unissued.
10 40,453 shares actually issued.
11 7,688 shares actually issued.
12 4,200 shares unissued.
13 500 shares unissued.
14 399 shares unissued.
15 22,277 shares unissued.
16 10,000 shares unissued.
17 Special shares are entitled to half of the profits.
18 Capital contributed by Chinese Government-Kuping Tls. 50,000.00.
19 12,000 issued only.
20 Typhoon and Floods Insurance Fund.
21 Special Cash Reserve.
22 1000 shares unissued.
23 10,000 shares unissued.
24 4595 part paid shares.
25 7,500 shares unissued.
26 10.000 shares unissued.
27 2.350 shares unissued.
28 25,000 shares unissued,
29 10,000 shares unissued.
30) 3,700 fully paid vendor shares and an option of 5,000 shares at par for 5 years granted to option holders.
*Based on last year's dividend.
** Based on present dividend.
§ 216 held by the Company.
|| Only Tls. 134.000 taken up.
¶ In certificates of £20 and £100.
‡ Redeemable in 10 years, or at option of Comp., the Company giving 6 months notice.
† Redeemable at par at rate of £10,000 per annum from 31st December 1903 to 31st December 95.
*** Redeemable at par on 30th June, 1915.
Dr. Deficit.
†† Singapore dollars.
‡‡ 4,880 shares unissued.
× 16,756 shares unissued.
§§ 25,000 shares unissued.
4140 shares unissued.

# ADDITIONAL SHANGHAI SHARE QUOTATIONS

**October 29, 1910**

| STOCK | CLOSING QUOTATIONS | HIGHEST AND LOWEST PRICES DURING THE WEEK | CAPITAL | NO. OF SHARES | VALUE | PAID UP | RESERVE | LAST DIVIDEND | WHEN PAID |
|---|---|---|---|---|---|---|---|---|---|
| Vulcan Iron Works, Limited.... | Tls. 10 | | Tls. 500,000 | 1,000 | Tls. 500 | Tls. 500 | — | Tls. 50 for year ended 31.8.06...... | Nov. 1, 1906 |
| Yangtsze Wharf & Godown Co. Limited.......................... | Tls. 195 | | Tls. 250,000 | 2,500 | Tls. 100 | Tls. 100 | Tls. 50,000 | Tls. 15 for 1909........................ | April 1, 1910 |
| Wei-hai-wei Land & Building Co., Limited.................... | Tls. 8 nominal | | Tls. 91,850 | 3,674 | Tls. 25 | Tls. 25 | — | Interim of $2.00 for 1909............ | Aug. 8, 1909 |
| Anglo-German Brewing Co., Limited............................ | $80 sellers | | $100,000 | 4,000 | $100 | $100 | none | 5% for 1909.............................. | Mar. 12, 1910 |
| Butler Tile Works, Limited..... | Tls. 23 | | Tls. 60,000 | 1,200 | Tls. 50 | Tls. 50 | — | Tls. 3 for year ending 31.3.09...... | June 8, 1909 |
| Major Bros., Limited...... | Tls. 40 | | Tls. 300,000 | 6,000 | Tls. 50 | Tls. 50 | — | —— | — |
| Oriental Ice Company, Limited | Tls. 25 | | Tls. 130,000 | 2,600 | Tls. 50 | Tls. 50 | — | First year.............................. | — |
| Scharffs Oil and Bone Mills, Ltd.. | Tls. 40 | | Tls. 200,000 | 4,000 | Tls. 50 | Tls. 50 | — | First year.............................. | — |
| Shanghai Ice Company, Limited. | Tls. 13 | | Tls. 200,000 | 8,000 | Tls. 25 | | — | 6 for 1909.............................. | Mar. 14, 1910 |
| Dunning & Company, Limited.. | $33 sales | | $100,000 | 2,000 | $50 | $50 | — | $5 year ending 28.2.08...... ......... | Apr. 15, 1908 |
| J. Llewellyn & Co., Limited..... | $60 nominal | | $72,000 | 1,200 | $60 | $60 | — | 7.20 for 1909.......................... | May 1, 1910 |
| Lane, Crawford & Company..... | $120 | | $250,000 | 2,500 | $100 | $100 | — | 10% for year 1909...................... | Apr. 28, 1910 |
| S. Moutrie & Company, Limited. | $20 | | $250,000 | 5,000 | $50 | $50 | — | $2 for year ended March 31, 1909. | June 18, 1909 |
| Weeks & Company, Limited... | $23 | | $400,000 | 20,000 | $20 | $20 | $40,000 | Final of 6% making 10% for 1909.. | June 1, 1910 |
| Dominion Rubber Co., Limited. | Tls. 30 | | Tls. 225,000 | 22,500 | Tls. 10 | Tls. 4 | — | First year.............................. | — |
| Senawang Rubber Estates Company, Limited.................. | Tls. 50 | | Tls. 250,000 | 2,500 | Tls. 100<br>Tls. 100 | Tls. 100<br>Tls. 75 | — | 20% for year ending May 31 1910... | May 9, 1910 |
| Tebong Rubber and Tapioca Estate, Limited.................. | Tls. 20 | | £76,000 | 76,000 | £1 | £1 | — | 50 cents for 1909.................... | Sept. 2, 1910 |
| Shanghai Mercury, Limited..... | Tls. 55 | | Tls. 105,500 | 2,100 | Tls. 50 | Tls. 50 | — | Final of 6% making 16% year 1909. | June 22, 1910 |
| Shanghai Mutual Telephone Co., Limited........................ | Tls. 64 | | Tls. 675,000 | 13,500 | Tls. 50 | Tls. 50 | — | Tls. 3 for 1907......................... | June 28, 1909 |
| China Export, Import & Lumber Company, Limited........ | Tls. 75 sales | | Tls. 350,000 | 500 | Tls. 100 | Tls. 50 | — | 5 p. c. for 1909........................ | May 1, 1910 |
| China Printing Co., Limited..... | Tls. 50 | | Tls. 750,000 | 1,500 | Tls. 50 | Tls. 50 | — | 7% 1908.................................. | Apr. 18, 1909 |
| Hirano Mineral Water Co., Ltd. | Y. 10 | | Y. 125,000 | 5,000 | Y. 25 | Y. 25 | — | 10%=yen 2½ for year ending 30th Sept. 08 Y. 1.20 for year ended Feb. 29.................. | Apr. 26, 1909 |
| Shanghai Electric & Asbestos Company, Limited............. | $21 sellers | | $125,000 | 5,000 | $25 | $25 | — | 8% for year ended Feb. 28, 09.... | June 21, 1909 |
| Shanghai Electric Construction Company, Limited............. | £6[5 | £11 | £320,000 | 82,000 | £10 | £10 | — | First year.............................. | — |

# DEBENTURES

| LOANS | | PRICE—PLUS ACCRUED INTEREST | AMOUNT OF LOAN | OUTSTANDING | NOMINAL VALUE | RATE OF INTEREST | WHEN PAYABLE |
|---|---|---|---|---|---|---|---|
| Shanghai Municipal Debentures........................... | 1892 | Tls. 97 | Tls. 45,400 | Tls. 45,400 | Tls. 100 | 5 % | June & Dec. |
| do | 1893 | ,, 100 | ,, 46,200 | '' 32,000 | '' 100 | 5½ ,, | Do |
| do | 1894 | ,, 106 | ,, 60,000 | '' 60,000 | '' 100 | 6 ,, | Do |
| do | 1895 | ,, 97 | ,, 107,600 | '' 32,600 | '' 100 | 5 ,, | Do |
| do | 1896 | ,, 97 | ,, 117,300 | '' 131,800 | ' 100 | 5 ,, | Do |
| do | 1897 | ,, 97 | ,, 268,400 | '' 268,400 | '' 100 | 5 ,, | Do |
| do | 1898 | ,, 106 | ,, 60,000 | '' 60,000 | '' 100 | 6 ,, | Do |
| do | 1900 | ,, 100 | ,, 31,700 | '' 31,700 | '' 100 | 5½ ,, | Do |
| do | 1901 | ,, 106 | ,, 77,000 | '' 200,000 | '' 100 | 6 ,, | Do |
| do | 1902 | ,, 106 | ,, 145,000 | '' 150,000 | '' 100 | 6 ,, | Do |
| do | 1903 | ,, 106 | ,, 430,500 | '' 490,500 | '' 100 | 6 ,, | Do |
| do | 1904 | ,, 106 | ,, 164,500 | '' 214,500 | '' 100 | 6 ,, | Do |
| do | 1905 | ,, 106 | ,, 285,900 | '' 320,000 | '' 100 | 6 ,, | Do |
| do | 1907 | ,, 106 | ,, 500,000 | '' 250,000 | '' 100 | 6 ,, | Do |
| do | 1908 | ,, 250 scarce | ,, 650,000 | '' 354,400 | '' 250 | 6 ,, | Do |
| do | 1909 | ,, 97½ | ,, 300,000 | '' 250,000 | '' 100 | 6 ,, | Do |
| Chinese Imperial Government Loan.................... | 1886 E | ,, 102½ | ,, 354,400 | '' ....... | '' 100 | 7 ,, | Mar. & Sept |
| Shanghai Land Investment Co., Debentures............... | 1892 | ,, 95 | ,, 250,000 | '' 250,000 | '' 100 | 6 ,, | May & Nov. |
| do | 1894 | ,, 104 | ,, 250,000 | '' 250,000 | '' 130 | 6 ,, | Mar. & Sept. |
| do | 1896 | ,, 104 | ,, 250,000 | '' 250,000 | '' 100 | 5 ,, | June & Dec. |
| do | 1900 | ,, 95 | ,, 250,000 | '' 250,000 | '' 100 | 6 ,, | April & Oct. |
| do | 1901 | ,, 104 | ,, 250,000 | '' 100,000 | '' 100 | 6 ,, | June & Dec. |
| do | 1901 | ,, 104 | ,, 100,000 | '' 400,000 | '' 100 | 5 ,, | May & Nov. |
| do | 1902 | ,, 104 | ,, 400,000 | '' 250,000 | '' 100 | 6 ,, | June & Dec. |
| do | 1905 | ,, 104 | ,, 250,000 | '' 815,900 | '' 100 | 6 ,, | Do |
| Shanghai Waterworks Co., Debentures................ .... | 1909 | ,, 104 | ,, 865,900 | '' ...... | '' 100 | 6 ,, | April & Oct. |
| Shanghai Gas Co., Debentures.............................. | 1909 | ,, 106 | ,, 775,000 | '' 800,000 | '' 100 | 5 ,, | Do |
| Shanghai and Hongkew Wharf Co., Debentures........... | 1902 | ,, 105 scarce | ,, 1,000,000 | '' 799,800 | '' 100 | 6 ,, | June & Dec. |
| Astor House Co., Debentures................................ | 1905 | ,, 100 | ,, 750,000 | '' 500,000 | '' 100 | 7 ,, | Do |
| British Municipal Council, Hankow......................... | 1901 | Sh. ,, 100 | H'kow Tls 100,000 | H'kow Tls 100 000 | '' 100 | 7 ,, | June & Dec. |
| Shanghai Club Debentures.................................. | 1907 | ,, 100 | Tls. 170,000 | Tls. 170,000 | '' 100 | 6 ,, | Do |
| Country Club Debentures................................... | | ,, 102½ | ,, 139,000 | '' 139,000 | '' 100 | 6 ,, | Do |
| do | 1907 | ,, 102 | ,, 92,000 | '' 92,000 | '' 100 | 6 ,, | Do |
| Lane Crawford & Co., Debentures........................... | 1907 | ,, 105 | ,, 110,000 | '' 110,000 | '' 100 | 7 ,, | Mar. & Sept. |
| Anglo-French Land Debentures............................. | 1908 | ,, 102 | ,, 250,000 | '' 250,000 | '' 100 | 6 ,, | June & Dec. |
| Central Stores Ltd. Debentures............................ | 1908 | ,, 102½ | ,, 250,000 | '' 250,000 | '' 100 | 8 ,, | Do |
| Shanghai Mutual Tel. Co. Debentures..... ............... | 1909 | ,, 102½ | ,, 200,000 | '' 200,000 | '' 100 | 6 ,, | Do |

# SINGAPORE SHARE QUOTATIONS

(COURTESY MESSRS. FRASER & CO., BROKERS, SINGAPORE, NOVEMBER 24, 1910)

| Date o Formation | Capital | Capital paid up | No. of Shares Issued | Issue Value | Paid up | Reserve | Last Dividend | Name | Buyers. | Sellers. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | **MINING** | | |
| 1903 | $300,000 | 300,000 | 30,000 | 10 | 10 | ....... | 30% for year ending 31-3-10.......... | Belat Tin Mining Co., Ltd.................. | 4.50 | 5.00 |
| 1907 | $300 000 | 225,000 | 22,500 | 10 | 10 | ....... | ............................................ | Bruang Ltd.................................... | 5.25 | 6.50 |
| 1901 | $600,000 | 600,000 | 60,000 | 10 | 10 | 25,000 | 6% for year ending 30-4-09.......... | Bruseh Hydraulic Tin Mining Co., Ltd...... | . . | 5.00 |
| 1907 | $400,000 | 375,000 | 37,500 | 10 | 10 | ....... | ............................................ | Kanaboi, Ltd................................. | 2.00 | 2.25 |
| 1901 | £60,000 | 60,000 | 60,000 | 1 | 1 | ....... | 2[- interim 1909.......................... | Kinta Tin Mines, Ltd........................ | 16.00 | 16,50 |
| 1905 | $150,000 | 99,000 | 9,900 | 10 | 10 | 6,485.68 | 35% for year ending 31-12-07........ | Kuantan Tin Mining Co., Ltd.............. | 2.00 | 3.00 |
| 1906 | £120,000 | 120,000 | 120,000 | 1 | 1 | ....... | 1[- interim 1909.......................... | Lahat Mines Ltd............................ | 8.50 | 9.25 |
| 1906 | $450,000 | 450,000 | 45,000 | 10 | 10 | ....... | ............................ .... | Malacca Tin Dredging Co., Ltd.............. | .... | 1.50 |
| 1906 | £30.000 | 30,000 | 30,000 | 1 | 1 | ....... | ............................................ | Malaya and Siam Corporation Ltd.......... | .... | 7[6 |
| 1906 | £250,000 | 179,500 | 500,000 | 5/- | 5/- | ....... | ............................................ | Pahang Consolidated Co., Ltd.............. | 4[3 | 5[6 |
| 1907 | £100,000 | 80,000 | 80,000 | 1 | 1 | ....... | ............................................ | Pengkalen, Ltd............................... | 6.25 | 4.25 |
| 1904 | £100,000 | 80,000 | 80,000 | 1 | 1 | ....... | 6[- interim.................................. | Pusing Bahru Tin Mines, Ltd.............. | . . | 7.00 |
| 1904 | £120,000 | 100,000 | 100,000 | 1 | 1 | 6,000 | 45% for year ending 30-6-07.......... | Pusing Lama Tin Mines, Ltd................ | 2.00 | 2.50 |
| 1907 | $450,000 | 300,000 | 30,000 | 10 | 10 | ....... | ............................................ | Rahman Hydraulic Tin, Ltd................ | 10.25 | 10.50 |
| 1905 | £27,000 | 27,000 | 27,000 | 1 | 1 | ....... | 1[- for 1907................................ | Rambutan, Ltd............................... | . . | 9.00 |
| 1892 | £200,000 | 200,000 | 200,000 | 1 | 1 | 4,873 | 1[2 paid April, 1910..................... | Raub Aust. Gold Ming. Co., Ltd,........... | 3.00 | 4.00 |
| 1905 | £40,000 | 40,000 | 40,000 | 1 | 1 | ....... | ............................................ | Redhills Tin Mining Co., Ltd................ | 2.00 | 3.00 |
| 1900 | $110,000 | 110,000 | 22,000 | 5 | 5 | ....... | 3% for year ending 22-1-09............ | Royal Johore Tin Mining Co., Ltd.......... | .... | 1.25 |
| 1907 | $550,000 | 500,000 | 50,000 | 10 | 10 | ....... | ............................................ | Salak South, Ltd............................. | .... | 3.00 |
| 1907 | £80,000 | 80,000 | 80,000 | 1 | 1 | ....... | ............................................ | Sempam Tin Mines, Ltd.................... | 1.00 | 1.50 |
| 1906 | $850,000 | 850,000 | 85,000 | 10 | 10 | 25,000 | 5% interim 1909........................ | Serendah Hydraulic Tin Ming. Co., Ltd... | 4.00 | 5.00 |
| 1899 | $230.000 | 230,000 | 23,000 | 10 | 10 | ....... | 3% for ½ year ending 31-12-08........ | Sipiau Tin Co., Ltd......................... | 1.50 | 2.00 |
| 1909 | $200,000 | $150,000 | 15,000 | 10 | 10 | ....... | ............................................ | Sungei Gau Tin Mining Co., Ltd........... | . . | 3.50 |
| 1907 | £90,000 | 70,000 | 70,000 | 1 | 1 | ....... | 4[6 interim 1909......................... | Tekka, Limited............................... | 21.00 | 22.00 |
| 1906 | £150,000 | 150,000 | 150,000 | 1 | 1 | ....... | 1[- interim 1909.......................... | Tongkah Harbour Tin Dredging Co., Ltd. | 13.00 | 13.50 |
| 1902 | £160,000 | 160,000 | 160,000 | 1 | 1 | ....... | 5[- during 1910........................... | Tronoh Mines, Ltd........................... | 14.25 | 14.75 |

## SINGAPORE SHARE QUOTATIONS.—(CONTINUED.)

| Date of Formation | Capital | Capital paid up | No. of Shares Issued | Issue Value | Paid up | Reserve | Last Dividend | Name | Buyers | Sellers. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | **STERLING RUBBER** | | |
| 1909 | £85,000 | 78,225 | 782,250 | 2/- | 2/- | ...... | | Allagar Rubber Estates, Ltd | 5/- | 5/6 |
| 1905 | £150,000 | 150,000 | 1,500,000 | 2/- | 2/- | ...... | 25% interim | Anglo-Malay Rub. Co., Ltd. | 1.3.6 | 1.5.0 |
| 1909 | £50,000 | 47,000 | 470,000 | 2/- | 2/- | ...... | | Batang Malaka Rubber Estates, Ltd. | 3/3 | 3/9 |
| 1904 | £30,000 | 26,750 | 26,750 | 1 | 1 | ...... | 35% interim | Batu Caves Rub. Co., Ltd. | 16.10.0 | 17.0.0 |
| 1906 | £80,000 | 67,800 | 67,800*l** | 1 | 1 | ...... | 2½% for 1909 | Batu Tiga (Selangor) Rubber Co., Ltd. | 4.10.0 | 5.0.0 |
| 1909 | £100,000 | 74,454 | 57,816 | 1 | 1 | ...... | | Bukit Kajang Rubber Estates, Ltd | 2.8.6 | 2.10.0 |
| | | | 22,184*n** | 1 | 15/- | ...... | | " " " *part paid* | 1.10.0 | 1.15.0p. |
| 1907 | £30,000 | 25,500 | 24,000 | 1 | 1 | ...... | 30% for year ending 30-6-10 | Bukit Lintang Rubber Estates, Ltd | 4.10.0 | 5.0.0 |
| | | | 6,000 | 1 | 5/- | ...... | | " " " *part paid* | 2.2.6 | 2.7.6p. |
| 1903 | £70,000 | 66,700 | 66,700 | 1 | 1 | 2,000 | 25% interim | Bukit Rajah Rubber Co., Ltd. | 15.10.0 | 16.0.0 |
| 1906 | £35,000 | 35,000 | 35,000 | 1 | 1 | ...... | | Castlefield (K.) R. Estate, Ltd. | 5.17.6 | 6.2.6 |
| 1909 | £225,000 | 176,086 | 1,760,860 | 2/- | 2/- | ...... | | Chersonese (F.M.S.) Estates, Ltd | 3/9 | 4/- |
| 1904 | £16,000 | 16,000 | 100,000 | 2/- | 2/- | ...... | 50% interim | Cicely Rubber Estates Co., Ltd | 2.2.6 | 2.5.0 |
| | | | 60,000 | 2/- | 2/- | ...... | 51¼% interim | " " " " 5% *Pref* | 2.2.6 | 2.5.0 |
| 1905 | £75,000 | 62,007 | 620,070 | 2/- | 2/- | 1,000 | 50% interim | Consolidated Malay Rub. Estates, Ltd. | 1.3.6 | 1.4.6 |
| 1906 | £110,000 | 110,000 | 110,000 | 1 | 1 | ...... | 50% for 1909 | Damansara (Selangor) Rubber Co., Ltd. | 7.2.6 | 7.12.6 |
| 1903 | £600,000 | 447,200 | 447,200*a* | 1 | 1 | ...... | | Duff Development Co., Ltd. | 12/6 | 13/6 |
| 1909 | £45,000 | 42,500 | 425,000 | 2/- | 2/- | ...... | 15% for 1909 | Edinburgh Rub. Estates, (Selangor) Ld. | 11/- | 12/- |
| 1907 | £80,000 | 70,000 | 70,000 | 1 | 1 | ...... | 25% interim | Golconda Rubber Co., Ltd. | 5.5.0 | 5.15.0 |
| 1906 | £310,000 | 307,770 | 307,770 | 1 | 1 | 8,784 | 35% for 1909 | Highlands & Lowds. Para Rub. Co., Ltd. | 5.3.6 | 5.7.6 |
| 1904 | £50,000 | 30,000 | 30,000 | 1 | 1 | 2,500 | 100% for year ending 30-6-10 | Inch Kenneth Rubber Estates, Ltd | 12.10.0 | 13.10.0 |
| 1909 | £200,000 | 143,750 | 775,000*p* | 2/- | 1/- | ...... | 15% for eleven monhts end. 30-6-10 | Kam. (P.) R. & T. Co., Ltd. "A" Shares | 5/3 | 5/9 p. |
| | | | 105,000 | 1 | 1 | ...... | " " " " " | " " " "B" " | .... | nom. |
| 1905 | £70,000 | 70,000 | 70,000 | 1 | 1 | ...... | 20% interim | Kapar Para Rubber Estates, Co., Ltd. | 8.17.6 | 9.10.0 |
| 1909 | £35,000 | £17,250 | 95,000 | 2/- | 2/- | ...... | | Kota Tinggi Johore Rubber Co., Ltd. | 2/- | 2/6 |
| | | | 155,000 | 2/- | 1/- | ...... | | " " " " | -/1 | 0/6 p. |
| 1906 | £180,000 | 180,000 | 180,000 | 1 | 1 | ..... | 75% interim | Kuala Lumpur Rubber Co., Ltd. | 8.2.6 | 8.10.0 |
| 1907 | £100,000 | 100,000 | 1,000,000 | 2/- | 2/ | ...... | 30% interim | Labu (F. M. S.) Rub. Co., Ltd. | 15/- | 16/6 |
| 1907 | £320,000 | £252,067/10/- | 198,930*v* | 1 | 1 | 3,000 | 27½% for 1909 | Lanadron Rubber Estates, Ltd. | 4.18.6 | 5.5.0 |
| | | | 70,850 | 1 | 15/- | ...... | 27½% for 1909 | " " " *part paid* | 3.12.6 | 4.5.0p. |
| 1908 | £125,000 | 75,000 | 60,000*g** | 1 | 1 | ...... | 17½% for 1909 | Ledbury Rubber Estates Ltd. | 3.10.0 | 3.17.6 |
| | | | 40,000 | 1 | 7/6 | ...... | 17½% for 1909 | " " " *part paid* | 2.0.0 | 2.5.0p. |
| 1895 | £100,000 | 98,324 8/- | 883,244*w* | 2/- | 2/- | 4,000 | 100% interim | Linggi Plantations Ltd., | 2.5.6 | 2.7.6 |
| | | | 10,000 | 1 | 1 | ...... | 7% for 1909 | " " " 7% *Pref* | .... | nom. |
| 1907 | £160,000 | 140,000 | 1,400,000*k* | 2/- | 2/- | ...... | 10% interim | London Asiatic R. & Produce Co., Ltd. | 12/9 | 13/9 |
| 1909 | £220,000 | 147,500 | 50,000 | 1 | 1 | ..... | | Lumut Rubber Estates, Ltd. | .... | nom. |
| | | | 150,000 | 1 | 3/- | ...... | | " " " " *part paid* | 18/6 | 20/- p. |
| 1906 | £400,000 | 300,000 | 185,000 | 1 | 1 | ...... | 10% interim for 1909 | Malacca Rubber Plants., Ltd. | 6.17.6 | 7.2.6 |
| | | | 115,000 | 1 | 1 | ..... | " " " | " " " " 7½% *Pref.* | 6.17.6 | 7.2.6 |
| 1909 | £210,000 | 181,250 | 1,812,500 | 2/- | 2/- | ...... | | Merlimau Rubber Estates, Ltd. | 6/- | 6/3 |
| 1903 | £30,000 | 22,500 | 225,000 | 2/- | 2/- | ...... | 75% interim | Pataling Rubber Estates Synd. Ltd | 2.17.6 | 3.1.0 |
| 1906 | £85,000 | 85,000 | 850,000 | 2/- | 2/- | ...... | 12½% interim 1909 | Perak Rubber Plantations, Ltd | 7/9 | 8/6 |
| 1909 | £60,000 | 41,150 | 15,000*z** | 1 | 1 | ...... | | Rembia Rubber Estates Ltd. | .... | nom. |
| | | | 35,000 | 1 | 15/- | ...... | | " " " 6% *Cum. Pref.* | 4/- | 7/6 p. |
| 1904 | £25,000 | 19,092 | 17,732*u* | 1 | 1 | ...... | 25% interim | Sagga Rubber Company, Limited | 11.0.0 | 12.0.0 |
| | | | 2,268 | 1 | 12/- | | | | | |
| 1905 | £100,000 | 100,000 | 71,378 | 1 | 1 | ..... | | Sapong Rubber and Tobacco Estates, Ltd. | 1.5.0 | 1.7.6 |
| | | | 28,622*l*‡ | | | | | | | |
| 1907 | £100,000 | 100,000 | 100,000 | 1 | 1 | ...... | 15% interim | Seafield Rubber Co., Ltd | 7.0.0 | 7.10.0 |
| 1898 | £30,000 | 30,000 | 300,000 | 2/- | 2/- | 3,000 | 150% interim | Selangor Rubber Co., Ltd | 3.0.0 | 3.3.6 |
| 1909 | £50,000 | 36,000 | 40,000 | 1 | 18/- | ...... | | Sendayan (F. M. S.) Rubber Co., Ltd | 1.6.3 | 1.10.0p. |
| 1906 | £65,000 | 65,000 | 65,000 | 1 | 1 | ...... | 7½% for 1909 | Shelford Rubber Estate, Ltd | 3.11.3 | 3.15.0 |
| 1909 | £150,000 | 78,500 | 14,000*i*‡ | 1 | 1 | ...... | | Sialang Rubber Estates, Ltd | 1.0.0 | 1.5.0p. |
| | | | 86,000 | 1 | 15/- | ...... | | | | |
| 1909 | £120,000 | 100,000 | 100,000 | 1 | 1 | ...... | | Singapore Para Rubber Estates, Ltd. | 2.10.0 | 2.15.0 |
| 1906 | £200,000 | 192,500 | 1,925,000 | 2/- | 2/- | ...... | 10% interim | Straits Settlements (B.) Rub. Co., Ltd | 7/3 | 7/6 |
| 1907 | £60,000 | 50,000 | 50,000*p*‡ | 1 | 1 | ..... | | Sungei Choh Rub.Estate, Co.Ltd. | 4.15.0 | 5.2.6 |
| 1906 | £110,000 | 100,000 | 1,000,000 | 2/- | 2/- | ..... | 37½% for 1909 | Sungei Kapar Rubber Co., Ltd | 13/6 | 14/6 |
| 1907 | £70,000 | 60,500 | 60,500 | 1 | 1 | ...... | | Sungei Salak Rubber Co., Ltd | 4.0.0 | 4.10.0 |
| 1904 | £60,000 | 59,500 | 59,500 | 1 | 1 | ...... | 12½% interim. | Sungei Way (Selangor) Rub. Co., Ltd | 6.5.0 | 6.10.0 |
| 1908 | £150,000 | 76,000 | 36,000 | 1 | 1 | ...... | | Tebrau (Johore) Rubber Co | 3.17.6 | 4.0.0 |
| | | | 64,000 | 1 | 12/6 | ...... | | " " " *part paid* | 2.1.6 | 2.5.0p. |
| 1907 | £200,000 | 200,000 | 200,000 | 1 | 1 | ...... | 5% interim | United Serdang (S.) R. Plantations, Ltd. | 5.10.0 | 6.0.0 |
| 1908 | £85,000 | 78,612 | 786,120 | 2/- | 2/- | ..... | 20% interim | United Sumatra Rubber Estates, Ltd. | 8/3 | 9/3 |
| 1904 | £60,000 | 50,600 | 506,000 | 2/- | 2/- | ..... | 250% for year ending 31-3-10 | Vallambrosa Rubber Co., Ltd. | 1.18.6 | 2.0.0 |
| | | | | | | | | **DOLLAR** | | |
| 1909 | $120,000 | 105,000 | 105,000*w** | 1 | 1 | ...... | | Alor Gajah Rubber Estate, Ltd | 1.80 | 2.20 |
| 1909 | $750,000 | 700,000 | 140,000 | 5 | 5 | ..... | | Ayer Panas Rubber Estates, Ltd | 6.00 | 6.25 |
| 1905 | $200,000 | 151,200 | 151,200 | 1 | 1 | 5,250 | 40% interim | Balgownie Rub. Estate, Ltd | 11.00 | 11.25 |
| 1910 | $500,000 | 500,000 | 50,000 | 10 | 10 | ...... | | Bukit Timah Rubber Estates, Ltd | 14.50 | 15.00 |
| 1910 | $750,000 | 700,000 | 70,000 | 10 | 10 | ...... | | Changkat Serdang Estates, Ltd | 8.00 | 8.25 |
| 1909 | $300,000 | 300,000 | 300,000 | 1 | 1 | ..... | | Glenealy Plantations, Ltd | 2.10 | 2.25 |
| 1910 | $200,000 | 164,285 | 32,857*m*‡ | 5 | 5 | ...... | | Haytor Rubber States, Ltd | 5.50 | 7.50 |
| 1910 | $600,000 | 180,000 | 30,000 | 10 | 6 | ...... | | Henrietta Estates, Ltd. | .... | par. |
| 1909 | $250,000 | 200,000 | 20,000 | 10 | 10 | ...... | | Indragiri (S.) R. and Gutta P. Co., Ltd. | 13.50 | 14.50 |
| 1910 | $350,000 | 300,000 | 300,000*s*‡ | 1 | 1 | ..... | | Jimah Rubber Estates, Ltd | 0.65 | 0.70 |
| 1910 | $350,000 | 291,000 | 11,000 | 5 | 5 | ...... | | Kelemak Rubber Estate, Ltd. | 3.50 | 4.00 |
| | | | 59,000 | 5 | 4 | ...... | | " " " *part paid* | 2.00 | 1.50 dis. |
| 1907 | $300,000 | 170,000 | 20,000 | 10 | 8,50 | .... | | Kombok Rubber Co., Ltd | 15.00 | prem |
| 1910 | $1,000,000 | 1,000,000 | 500,000 | 2 | 2 | ...... | | Malakoff Rubber Co., Ltd. | 2.20 | 2.30 |
| 1910 | $1,250 000 | 1,250,000 | 250,000 | 5 | 5 | ...... | | New Singapore Rubber Co., Ltd. | 5.50 | 6.00 |
| 1910 | $700,000 | 600,000 | 600,090*q*‡ | 1 | 1 | ...... | | Nyalas Rubber Estates | 0.40 | 0.50 |
| 1909 | $400,000 | 400,000 | 80,000 | 5 | 5 | ...... | 5% interim | Pajam Limited | 10.25 | 10.50 |
| 1909 | $200,000 | 200,000 | 200,000 | 1 | 1 | ...... | | Pantai, Limited | 1.05 | 1.15 |
| 1909 | $500,000 | 450,000 | 45,000 | 10 | 10 | ...... | 7½% interim | Pegoh, Limited | 31.00 | 32.00 |
| 1910 | $450,000 | 295,000 | 45,000*f*‡ | 5 | 5 | ..... | | Port Dickson Rubber Co., Ltd | 10.00 | 12.00 |
| | | | 35,000 | 5 | 2 | ..... | | " " " *part paid* | 3.00 | 4.(0 p. |
| 1910 | $200,000 | 150,000 | 150,000 | 1 | 1 | ..... | | Pulo Daat Plantations, Ltd. | 1.00 | 1.20 |
| 1904 | $100,000 | 100,000 | 50,000*b** | 2 | 2 | 20,000 | 50% interim | Sandycroft Rubber Co., Ltd | 26.00 | 26.50 |
| 1910 | $1,500,000 | 1,500,000 | 1,500,000 | 1 | 1 | ...... | | Sembawang Rubber Plantations, Ltd. | 0.40 | 0.50 |
| 1903 | $450,000 | 417,300 | 208,650 | 2 | 2 | ...... | 25% interim | Singapore & Johore Rub. Co., Ltd | 12.75 | 13.00 |
| 1909 | $250,000 | 100,000 | 10,000 | 10 | 10 | ..... | | St. Helena Rubber Coy., Ltd | .... | 28.00 |
| 1910 | $600,000 | 450,000 | 225,000*n*‡ | 2 | 2 | .... | | Sungei Bagan Rubber Co., Ltd. | 1.50 | 2.00 |
| 1909 | $200,000 | 165,000 | 33,000 | 5 | 5 | ...... | | Teluk Anson Rubber Estate, Ltd. | 4.50 | 5.00 |
| 1910 | $425,000 | 371,700 | 371,700*r*‡ | 1 | 1 | ..... | | Ulu Pandan (Singapore) Rub. Estates Ltd. | 0.45 | 0.55 |
| 1909 | $1,000,000 | 737,500 | 737,500*y** | 1 | 1 | ..... | | United Singapore Rubber Estates, Ltd. | 1.30 | 1.50 |
| | | | | | | | | **GENERAL** | | |
| 1903 | £400,000 | 400,000 | 400,000 | 1 | 1 | ...... | | Singapore Electric Tramways, Co., Ltd. | 3/3 | 4/3 |
| 1907 | $1,500,000 | 1,065,150 | 25,000*d** | 10 | 10 | ...... | 10% for year ending 31/12/08 | Eastern Smelting Co. Ltd. | .... | 10 00 n. |
| | | | 116,450 | 10 | 7 | ...... | 10% for year ending 31-12-08 | " " " *part paid* | .... | 6.00 n. |
| 1898 | $360,000 | 360,000 | 36,000 | 10 | 10 | 170,000 | 10% interim | Fraser & Neave, Ltd. | 26.00 | 27.00 |
| 1905 | $2,400,000 | 2,400,000 | 18,000 | 100 | .... | 75,000 | 2½% for year ending 31-10-08 | Howarth Erskine, Ltd. | .... | 58.00 |
| | | | 6,000 | 100 | .... | ...... | 7% for year ending 31-10-08 | " " 7% *Pref* | 90.00 | 91.00 |
| 1896 | $1,000,000 | 1,000,000 | 6,000 | 100 | 100 | 40,600 | 12% for year ending 31-12-09 | Katz Brothers, Ltd. *Deferred* | .... | 125.00 |
| | | | 4,000 | 100 | 100 | ...... | 8% " " " " 09 | " " 8% *Cum. Pref* | .... | nom. |
| 1901 | $34,000 | 34,000 | 3,400 | 10 | 10 | ...... | 20% for year ending 31-10-09 | Maynard & Co., Ltd. | 20.00 | 21.00 |
| 1899 | $875,000 | 875,000 | 6,000 | 100 | 100 | 175,000 | 5% for year ending 31/12/09 | Riley, Hargreaves & Co., Ltd | 80 00 | 85.00 |
| | | | 2,750 | 100 | 100 | ...... | 7% for year ending 31/12/09 | " " " " 7% *Pref* | 102.00 | .... |
| 1897 | £3,500,000 | 3,500,000 | 2,500,000 | 1 | 1 | 1,120,000 | 22½% for 1909 | Shell Transport and Trading Co., Ltd | 4.3.6 | 4.6.6 |
| | | | 100,000 | 10 | 10 | ...... | | " " " " " *Pref.* | 11.5.0 | 12.0.0 |
| 1903 | $600,000 | 250,000 | 25,000*n* | 10 | 10 | ..... | 12½% for year ending 30-6-10 | Singapore Cold Storage Co., Ltd | 20.50 | 21.50 |
| 1891 | $30,000 | 30,000 | 600 | 50 | 50 | 23,000 | 10% for year ending 31-7-09 | Singapore Dispensary Ltd. | 50.00 | 52.50 |
| 1884 | $200,000 | 200,000 | 2,000 | 100 | 100 | 75,000 | 15% interim | Straits Ice Co., Ltd | 160.00 | 165.00 |
| 1890 | $1,000,000 | 623,000 | 4,980 | 100 | 100 | 760,000*q* | 5% interim | Straits Steam Ship Co., Ltd. | 205.00 | 215.00 |
| | | | 2,500 | 100 | 50 | | | " " " " " *part paid* | 65.00 | 75.00 p. |
| 1887 | $3,000,000 | 3,000,000 | 300,000 | 10 | 10 | 805,400*r* 1,400,000 | 10% & 5% bon. for half yr. end. 31/3/10 | Straits Trading Co., Ltd | 55.50 | 56.00 |
| | | | | | | | | **DEBENTURES** | | |
| | | | | | | | | Howarth Erskine, Ltd. 6% $600,000 | .... | par. |
| | | | | | | | | Riley, Hargreaves & Co., Ltd. 6%,284,000 | 1% | 3% p. |
| | | | | | | | | Singapore Electric Tramways, Co., Ltd. 5% £350,000 | .... | .... |
| | | | | | | | | Singapore Municipal 5% 1,878,000 | .... | nom. |
| | | | | | | | | " " 4½% of 1907 1,600,000 | 6% | 7% p. |
| | | | | | | | | " " 4½% of 1909 1,000,000 | 7% | 8% p. |
| | | | | | | | | " " 4% 602,900 | .... | 7% dis |

*a* { 152,800 unissued; 43,949 6% debenture
*e* { 54,500 £1 Prefs issued; 45,500 £1 " unissued; 100,000 5/- Ord. "
*f* 6,250 unissued
*k* £40,000 6% Debentures 200,000 unissued
*p* 175,000 unisd. "A" shares
*q* Sundry Reserves.
*r* "
*u* 5,000 issued £1 prem.
*v* 50,220 unissued
*w* 16,756 "
*b** 221 7½% Debentures
*d** 8,550 unissued
*g** 25,000 unissued
*l** £10,000 Convertible 6% Debentures issued 12,200 shares unissued
*n** 20,000 unissued
*y** 262,500 "
*z** 10,000 "
*i*‡ 50,000 "
*l*‡ 6% Deb. Stock Convble.
*m*‡ 7,143 unissued.
*n*‡ 75,000 unissued.
*o*‡ 67,750 ,,
*p*‡ 10,000 ,,
*q*‡ 100,000 ,,
*r*‡ 53,300 ,,
*s*‡ 50,000 ,,

# YOKOHAMA SHARE QUOTATIONS

COURTESY A. C. HUTTON POTTS, SHARE AND GENERAL BROKER, YOKOHAMA, NOVEMBER 24, 1910.

| STOCKS. | CAPITAL. | NO. OF SHARES. | ISSUE VALUE. | AMOUNT PAID UP. | DATE. | LAST DIVIDEND. | FOR TERM. | CLOSING QUOTATION. |
|---|---|---|---|---|---|---|---|---|
| Brett & Co., Ltd. | -Y- 28,000 | 2,800 | -Y- 10 | -Y- 10 | 31-12-09 | 12½% | for 1 year | 15 Sellers |
| Club Hotel, Ltd. | 185,000 | 1,850 | 100 | 100 | 31-3-10 | 6% | for 1 year | 70 Sales |
| Grand Hotel, Ltd. | 500,000 | 5,000 | 100 | 100 | 31-6-10 | 5% | for ½ year | 90 Sellers. |
| Helm Bros., Ltd. | 186,000 | 3,720 | 50 | 50 | 31-12-10 | 17½% | for 1 year | 87 Sales. |
| Langfeldt & Co., Ltd. | 100,000 | 2,000 | 50 | 50 | 30-6-09 | 6% | for ½ year | 60 Sellers. |
| C. Nickel & Co., Ltd. † | 500,000 | 20,000 | 25 | 25 | 31-10-09 | 20% | for 1 year | 57 Sales. |
| Thwaites, Limited | 100,000 | 2,000 | 50 | 50 | First Year | — | — | 55 Sales. |
| Yokohama Engine and Iron Works * | 500,000 | 10,000 | 50 | 50 | 31-5-09 | — | for 1 year | 40 Sellers. |
| Oriental Hotel, Ltd., Ordinary } | 250,000 | 3,000 | 50 | 50 | 31-8-07 | 12% | for 1 year | 50 Sales |
| Oriental Hotel, Ltd., Preference } | | 2,000 | 50 | 50 | | 8% | for 1 year | 52:50 Sales |
| The Union Estate and Investment Co., Ltd. ‡ | 1,000,000 | 10,000 | 100 | 100 | 30-9-09 | 6½% | for 1 year | 100 Nominal. |
| The Clifford Wilkinson Tansan Mineral Water Co., Ltd. § | 500,000 | 5,000 | 100 | 100 | 31-12-09 | 7% | for 1 year | 100 Buyers. |

† 285,000 unissued.
‡ 475,000 unissued.

*-Y- 390,000 issued.
§-Y- 375,800 issued.

| DEBENTURE LOANS. | AMOUNT OF LOAN. | FACE VALUE OF DEBENTURES. | RATE OF INTEREST. | INTEREST PAYABLE. | CLOSING QUOTATION. |
|---|---|---|---|---|---|
| Brett & Company, Limited | 11,500.00 | 100.00 | 7% | 1 June and 1 Dec. | 95 Sales. |
| Yokohama United Club | 230,000.00 | 100.00 | 6% | 30 June and 31 Dec. | 102 Nominal. |
| Oriental Hotel, Limited | 350,000.00 | 100.00 | 8% | 1 April and 1 Oct. | 103 Sales. |
| Union Estate and Investment Co., Limited | 250,000.00 | 100.00 | 6% | 30 June and 31 Dec. | 95 Sellers. |

| JAPANESE STOCKS. | FACE VALUE. | AMOUNT PAID UP. | LAST DIVIDEND. | DIVIDEND PAYABLE. | CLOSING QUOTATION. |
|---|---|---|---|---|---|
| **Bonds & Debentures.** | | | | | |
| Exchequer Bonds 3rd issue | -Y-100 | -Y-100 | 5% | March and Sept. | -Y-100.80 |
| Railway Bonds (Ko-Gobu) | 100 | 100 | 5% | June and Dec. | ,, 102.40 |
| 4% Imperial Loan Bonds (1st issue) | 100 | 100 | 4% | June and Dec. | ,, 95.70 |
| 4% Imperial Loan Bonds (2nd issue) | 100 | 100 | 4% | March and Sept. | ,, 94.60 |
| Imperial 5% Bonds | 100 | 100 | 5% | March and Sept. | ,, 100.60 |
| Special 5% Bonds (issued 1906) | 100 | 100 | 5% | June and Dec. | ,, 102.00 |
| Yokohama Water Works Bonds | 100 | 100 | 6% | June and Dec. | ,, 105.00 |
| Yokohama City Public Loan Bonds | 100 | 100 | 6% | March and Sept. | ,, 105.50 |
| Osaka City Harbour Construction Bonds | 100 | 100 | 6% | June and Dec. | ,, 104.00 |
| Osaka City Public Loan Bonds | 100 | 100 | 6% | June and Dec. | ,, 104.00 |
| Kawasaki Dock Yards Co.'s Debentures | 100 | 100 | 7% | June and Dec. | ,, 104.00 |
| Tokyo Race Associations " | 500 | 500 | 30% | June and Dec. | ,, 190.00 |
| **Railways & Electric Trams.** | | | | | |
| Tokyo Railway Company, Limited | 50 | 50 | 5 2/5% | June and Dec. | ,, 74.90 |
| Yokohama Electric Tramway Company, Limited | 50 | 50 | 6% | July and Jan. | ,, 53.00 |
| Keihin Electric Tramway Company, Limited | 50 | 50 | 6% | June and Dec. | ,, 45.30 |
| Southern Manchurian Railway Co., Ltd. | 100 | 20 | 6% | June and Dec. | ,, 44.00 |
| Hanshin Electric Tramway Co., Ltd. | 50 | 50 | 12% | May and Nov. | ,, 121.00 |
| **Cotton Spinnings.** | | | | | |
| Kanegafuchi Cotton Spinning Company, Limited | 50 | 50 | 14% | July and Jan. | ,, 106.60 |
| Fuji Gassed-yarn Company, Limited | 50 | 50 | 14% | July and Jan. | ,, 83.30 |
| Tokyo Cotton Spinning Company, Limited | 50 | 50 | 8% | July and Jan. | ,, 41.50 |
| Imperial Hemp Weaving Company, Limited | 50 | 50 | 12% | July and Jan. | ,, 70.00 |
| Nisshin Boseki Kabushiki Kaisha | 50 | 17½ | 7% | —— | ,, 11.40 |
| **Sugar & Beer Cos.** | | | | | |
| Dai-nippon Sugar Refinery Company, Limited | 50 | 50 | ....... | May and Nov. | ,, 37.50 |
| Ensuiko Sugar Refinery Company, Limited | 50 | 20 | 20% | June and Dec. | ,, 46.50 |
| Dai-nippon Beer Company, Limited | 50 | 50 | 12% | July and Jan. | ,, 78.80 |
| Kirin Brewery Company, Limited | 50 | 50 | 7% | July and Jan. | ,, 52.50 |
| **Docks & Steamships.** | | | | | |
| Yokohama Dock Company, Limited | 50 | 33 | 12% | June and Dec. | ,, 55.00 |
| Uraga Dock Company, Limited | 50 | 50 | ....... | July and Jan. | ,, 7.50 |
| Kawasaki Dockyard Company, Limited | 50 | 50 | 12½% | Feb. and Aug. | ,, 54.00 |
| Nippon Yusen Kaisha | 50 | 50 | 10% | May and Nov. | ,, 93.80 |
| Hokkaido Tanko S. S. Company, Limited | 50 | 50 | 5% | July and Jan. | ,, 29.40 |
| **Miscellaneous.** | | | | | |
| Tokyo Electric Light Company, Limited | 50 | 50 | 12% | June and Dec. | ,, 83.20 |
| Tokyo Gas Company, Limited | 50 | 50 | 13% | July and Jan. | ,, 103.05 |
| Yokohama Union Electric Light Company, Limited | 50 | 50 | 14% | June and Dec | ,, 107.00 |
| Fuji Paper Mills | 50 | 50 | 6% | June and Dec. | ,, 30.50 |
| Otaru Timber Company, Limited | 50 | 50 | ....... | March and Sept. | ,, 33.00 |
| Hoden Petroleum Company, Limited | 50 | 50 | 20% | April and Oct. | ,, 55.30 |
| Tokyo Rope Manufacturing Company, Limited | 50 | 50 | 18% | June and Dec. | ,, 110.00 |
| Japan Horse Improvement Company, Limited | 50 | 50 | ....... | March and Sept. | ,, 13.50 |
| Tokyo Stock Exchange Company | 50 | 50 | 15 1/5% | June and Dec. | ,, 209.30 |
| Osaka Electric Light Company, Limited | 50 | 50 | 16% | July and Jan. | ,, 107.50 |
| Kobe Electric Light Company, Limited | 50 | 50 | 14% | July and Jan. | ,, 105.50 |

# BANGKOK SHARE QUOTATIONS

(COURTESY MESSRS. EDWARDS & CO., BANGKOK, SIAM.) NOV. 28, 1910

| NAME. | BUYERS. | SELLERS. | LAST SALES. | ESTABLISHED. | CAPITAL. | NO. OF SHARES. | ISSUE VALUE. | AMOUNT PAID UP. | RESERVE FUND | LAST DIVIDEND |
|---|---|---|---|---|---|---|---|---|---|---|
| Siam Electricity Co., Ltd. | Tcs. 300 | Tcs. 325 | Tcs. 325 | 1901 | £ 300,000 | 30,000 | £ 10— | £ 300,000 | Tcs. 491,338 | 12% Tcs. 4 bon. |
| Paknam Railway Co., Ltd | ,, 200 | ,, — | ,, 220 | 1893 | Tcs. 400,000 | 5,000 | Tcs. 80 | Tcs. 400,000 | ,, 37,566 | 14% |
| Siam Tramway Co., Ltd | ,, — | ,, — | ,, 108 | 1905 | ,, 1,450,000 | 6250 Shares<br>7250 Deb.<br>1000 P. Shares | ,, 100 | ,, 2,230,000 | ,, 1,875 | — |
| Meklong Railway Co., Ltd | ,, 90 | ,, 100 | ,, 90 | 1907 | ,, 2,230,000 | 22,300 | ,, 100 | ,, 223,000 | ,, 28,000 | 5% |
| Bangkok Manufact. Co., Ltd. | ,, — | ,, — | ,, 132 | 1898 | ,, 400,000 | 4,000 | ,, 100 | ,, 400,000 | ,, 60,000 | 7% per for 6 months |
| Bangkok Dock Co., Ltd | ,, — | ,, 135 | ,, 135 | 1865 | ,, 1,000,000 | 10,000 | ,, 100 | ,, 950,000 | ,, 220,000 | |
| Siam Steam Packet Co. | ,, 80 | ,, 909 | ,, 90 | 1898 | ,, 190,000 | 3,800 | ,, 50 | ,, 190,000 | ,, 34,000 | 5% |
| Siam Commercial Bank | ,, 1,000 | ,, 1,500 | ,, 1,000 | 1906 | ,, 3,000,000 | 3,000 | ,, 1,000 | ,, 3,000,000 | ,, 338,850 | 4% for 6 mos. |
| Menam Motor Boat Co. | ,, 75 | ,, 90 | ,, 90 | 1905 | ,, 200,000 | 2,000 | ,, 100 | ,, 200,000 | — | none |
| Transport Co., Motor | ,, — | ,, 75 | ,, 100 | 1906 | ,, 200,000 | 2,000 | ,, 100 | ,, 200,000 | — | — |
| Jenderata Rubber Co.* | ,, — | ,, 325— Ticals | ,, 325 (for six calls) | 1906 | £ 40,000 | 4,000 | £ 10 | £ 7.-paid | — | — |
| Bagan Rubber Co. | ,, — | ,, 100 | ,, 100 | 1907 | Tcs. 300,000 | 3,000 | Tcs. 100 | Tcs. 40 per share | — | — |
| Siam Steam Navigation Co., Ltd. | ,, 300 | ,, 325 | ,, — | 1909 | ,, 2,000,000 | 10,000 | ,, 200 | — | ,, 10,000 | — |
| Siam Stone Works, Ltd. | ,, — | ,, — | 100 | 1909 | ,, 350,000 | 3,500 | ,, 100 | ,, 350,000 | — | 6% half year |
| Kombok Rubber Co | ,, 25 | ,, 35 | 32 | 1906 | $ 300,000 | 30,000 | $ 100 | $7, per Share | — | — |

# PHILIPPINE SHARE REPORT

COURTESY B. A. GREEN, GENERAL SHARE, BOND AND INVESTMENT BROKER.—*Manila, P. I., December 10, 1910.*

| Name | Closing Quot'n | When Incorporated | Authorized Capital | Issue Value of Shares | Number of Shares | Number of Shares Subscribed | Paid up | Reserve Fund | Working Account | Date | Last Dividend |
|---|---|---|---|---|---|---|---|---|---|---|---|
| American Drug Store | ...... .. | 1908 | ₱ 100,000 | ₱1,000 | 100 | 51 | ₱1,000 | ₱5,000 | ₱ 50,000 | June 30, 1910. | ........ |
| Antamok Valley Mining Co | ₱0.40 | 1909 | 500,000 | 1 | 500,000 | 320,000 | 1 | ..... | ........ | ........ | First year |
| Banco Español Filipino | ₱255. | 1851 | 3,000,000 | 200 | 15,000 | 12,980 | 200 | 408,715 | ........ | July 1, 1910. | 5% First Half 1910 |
| Bayhay Valley Oil Co | 100. | 1909 | 100,000 | 100 | 1,000 | .......... | 100 | ...... | ........ | ........ | First year |
| Benguet Commercial Co | 85. | 1908 | 200,000 | 100 | 2,000 | 736 | 100 | ...... | ........ | ........ | 8% for 1906 |
| Benguet Consolidated Mining Co | 0.50 | 1903 | 2,000,000 | 2 | 1,000,000 | 495,000 | 2 | ..... | ........ | ........ | ........ |
| Bua Mining Co. | | | | | | | | | | | |
| Common | 90. | 1905 | 750,000 | 100 | 7,000 | 3,366 | 100 | ...... | ........ | ........ | ........ |
| Preferred | 140. | | | 100 | 500 | 500 | 100 | ...... | ........ | ........ | ........ |
| Cadwallader-Gibson Lumber Co | ........ | 1908 | 1,000,000 | 100 | 10,000 | 8,650 | 100 | ...... | ........ | ........ | ........ |
| Camote-Clayton Mining Co | ........ | 1909 | 400,000 | 10 | 40,000 | 26,000 | 10 | ...... | ........ | ........ | First year |
| Compania Maritima | 50. | 1894 | 510,000 | 100 | 5,100 | 5,100 | 100 | ...... | ........ | ........ | 20% for 1902 |
| East Batan Coal Mining Co | 33. | 1909 | 3,000,000 | 50 | 60,000 | 40,000 | 50 | ...... | ........ | ........ | First year |
| El Varadero de Manila | 75. | 1885 | 450,000 | 100 | 4,500 | 4,500 | 100 | 288,955 | 134,715 | Aug. 31, 1910 | 3½% interim 1910 |
| Electrical Supply Co | ........ | 1909 | 100,000 | 100 | 1,000 | 280 | 72 | ...... | ........ | ........ | First year |
| Export & Import Lumber Co | ........ | 1908 | 200,000 | 200 | 1,000 | 1,000 | 200 | ...... | ........ | ........ | ........ |
| Escolta Press Inc | 100. | 1907 | 50,000 | 100 | 500 | 320 | 100 | ...... | ........ | ........ | 12% for 1909 |
| Fabrica de Hielo de Manila | 60. | 1894 | 350,000 | 50 | 7,000 | 7,000 | 50 | ...... | ........ | ........ | 9% interim for 1910 |
| Germinal Cigar Factory | 525. | 1900 | 1,500,000 | 500 | 3,000 | 3,000 | 500 | ...... | ........ | ........ | 12% for 1909 |
| H. E. Heacock & Co | ........ | 1909 | 100,000 | 100 | 1,000 | 800 | 100 | ...... | ........ | ........ | First Year |
| Headwaters Mining Co | 10. | 1908 | 600,000 | 10 | 60,000 | 59,800 | 10 | ...... | ........ | ........ | ........ |
| Insular Lumber Co | 140. | 1907 | 2,000,000 | 200 | 10,000 | 9,000 | 200 | ...... | ........ | ........ | ........ |
| Lepanto Mining Co | ........ | 1906 | 1,000,000 | 100 | 10,000 | 8,000 | 100 | ...... | ........ | ........ | ........ |
| Juan Seiboth Co | ........ | 1908 | 150,000 | 20 | 7,500 | 500 | 20 | ...... | ........ | ........ | ........ |
| La Concha Button Factory | 90. | 1905 | 75,000 | 100 | 750 | 530 | 100 | ...... | ........ | ........ | 15% for 1909 |
| Los Banos Improvement Co | 200. | 1908 | 100,000 | 200 | 500 | 500 | 200 | ...... | ........ | ........ | 16% for 1908 |
| Lambert, Springer Co | ........ | 1908 | 200,000 | 1,000 | 200 | 80 | 1,000 | ...... | ........ | ........ | ........ |
| Luzon Stevedoring Co | 25. | 1909 | 250,000 | 25 | 10,000 | 4,200 | 25 | ...... | ........ | ........ | ........ |
| Luzon Sugar Refining Co | ....18. | 1882 | 700,000 | 100 | 7,000 | 7,000 | 100 | ...... | ........ | ........ | 3% for 1907 |
| Manila Electric Ry. & Light Co | 140. | 1903 | 12,000,000 | 200 | 60,000 | .......... | 200 | ...... | ........ | ........ | 4% for 1909 |
| Manila Hotel Co | 100. | 1909 | 400,000 | 100 | 4,000 | 3,500 | 100 | ...... | ........ | ........ | Under Construction |
| Mindanao Herald Publishing Co | ........ | 1907 | 15,000 | 100 | 150 | 75 | 100 | ...... | ........ | ........ | ½% for 1908 |
| Muyot Mining Co | 3. | 1909 | 500,000 | 10 | 50,000 | .......... | 10 | ...... | ........ | ........ | First Year |
| Paracale Gold Dredging Co | 15. | 1907 | £10,000 | £1 | 10,000 | 10,000 | £1 | ...... | ........ | ........ | £1 for 1908-9 |
| Paracale Ext. Gold Dredging Co | 10. | 1909 | ₱450,000 | ₱10 | 45,000 | .......... | ₱10 | ...... | ........ | ........ | First Year |
| Philippine Publishing Co | 120. | 1907 | 600,000 | 200 | 3,000 | 2,187 | 200 | ...... | ........ | ........ | 10% interim for 1910. |
| Philippine Co., Ltd | 5. | 1904 | 750,000 | 10 | 75,000 | 75,000 | 10 | ...... | ........ | ........ | ........ |
| Philippine Gold Dredging Co | 10. | 1907 | 200,000 | 10 | 20,000 | 20,000 | 10 | ...... | ........ | ........ | ........ |
| Philippine Exploration Co | 10.00 | 1908 | 2,000,000 | 10 | 200,000 | 120,000 | 10 | ...... | ........ | ........ | ........ |
| Port Banga Lumber Co | ........ | 1908 | 100,000 | 100 | 1,000 | 934 | 100 | ...... | 40,000 | Oct 1, 1910. | ........ |
| Rosenstock Publishing Co | ........ | 1908 | 75,000 | 10 | 7,500 | 6,000 | 10 | ...... | ........ | ........ | ........ |
| San Nicolas Iron Works | 100. | 1901 | 300,000 | 500 | 600 | 600 | 500 | ...... | ........ | ........ | 15% for 1903 |
| San Mauricio Gold Mining Co | 35. | 1908 | 4,000,000 | 200 | 20,000 | 20,000 | 200 | ...... | ........ | ........ | ........ |
| Sanitary Steam Laundry | 22. | 1908 | 100,000 | 20 | 5,000 | 3,900 | 20 | ...... | ........ | ........ | ........ |
| Tarlac Railway Co | 65. | 1906 | 150,000 | 100 | 1,500 | 1,500 | 100 | ...... | ........ | ........ | ........ |
| Tumbaga Mining Co | 13. | 1909 | 1,000,000 | 40 | 25,000 | 24,125 | 40 | ...... | ........ | ........ | First Year |
| Union Hemp Machine Co | ........ | 1909 | 50,000 | 10 | 5,000 | 2,600 | 10 | ...... | ........ | ........ | First Year |
| Walter E. Olsen Co | 100. | 1909 | 500,000 | 100 | 5,000 | 2,033 | 100 | ...... | ........ | ........ | First Year |
| Zamboanga Cold Storage Co | 125. | 1903 | 40,000 | 100 | 400 | 200 | 100 | ...... | ........ | ........ | 20% for 1909 |

# PHILIPPINE BONDS

| | Dated | Authorized | Issued | Outstanding | Par Value | Rate of Int. | When payable' | Last Quotation |
|---|---|---|---|---|---|---|---|---|
| Philippine Friar Land Bonds | Feb. 1st, 1904 | $7,000,000 | $7,000 000 | $7,000,000 | $ 100 | 4% | Feb. 1, 1914 | 104½ |
| Public Works and Permanent Improvement Bonds | March 1, 1905 | $5,000,000 | $2,500,000 | $2,500,000 | $ 100 | 4% | March 1, 1915 | 104½ |
| Do. | Feb. 1, 1906 | | $1,000,000 | $1,000,000 | $ 100 | 4% | Feb. 1, 1916 | 104½ |
| Manila Sewer and Water Works Improvement Bonds | June 1, 1905 | $4,000,000 | $1,000,000 | $1,000,000 | $ 100 | 4% | June 1, 1915 | 104½ |
| Do. | Jan. 2, 1907 | | $2,000,000 | $2,000,000 | $ 100 | 4% | Jan. 2, 1917 | 104½ |
| Philippine Railway First Mortgage Four per cent Thirty Year Sinking Fund Gold Bonds | July 1, 1907 | $15,000,000 | $5,736,000 | $5,736,000 | $1000 | 4% | July 1, 1937 | 97 |
| B. P. O. Elks. First Mortgage 7% Five-Fifteen Year Sinking Fund Gold Bonds | July 1, 1908 | $75,000 | $75,000 | $75,000 | $ 50 | 7 | July 1, 1923 | 50½ |

*Payment of interest guaranteed until maturity or redemption by the Philippine Government.

## *Professional Cards*

**CEMENT TESTS**

**Made according to the latest British Standard Specification, or to any other, as required : : : :**

**COAL TESTS**

**Ordinary tests. Caloriphic value. Elementary analysis**

**MINING INSTITUTE AND ANALYTICAL LABORATORY**

**Dr. LIVIO SILVA**

EXAMINATIONS AND REPORTS FOR FINANCING

CABLE ADDRESS: "YOUNGENG" NEW YORK

**C. G. Young**

Engineering and Construction, Steam and Electric Railways, Public Utilities and Industrials, REPORTS for FINANCING.

IN ANY PART OF THE WORLD -:- SIXTY WALL ST., NEW YORK

# ALPHABETICAL LIST OF ADVERTISERS


Ackley Adjustable Brake Co. .... 32
Alhambra Cigar & Cigarette Factory .... 31
Allis-Chalmers Co. .... 64
American Bank Note Co. .... 63
American Asiatic S. S. Co. .... 31
American Locomotive Co. .... 50
American Bridge Co. .... 60
American Manchurian S. S. Co. .... 57
American Steel and Wire Co. .... 57
Anderson & Co., Wm. H. .... 41
Anderson, Meyer & Co. .... 30
Arnhold Karberg & Co. .... 20
Astor House Hotel Co. .... 55
Baldwin Locomotive Works .... 32-51
Banco Español Filipino .... Cover
Bell, David W. .... 19
Bohler Bros & Co. .... 64
British American Tobacco Co., Ltd. .... 85
Cadwallader-Gibson Lumber Co. .... 28
California-Manila Lumber Co. .... 21
Carmichael & Clarke .... 10
Chaflin Co., The H. B. .... 61
Chee Hsin Cement Co., Ltd. .... 42
China Import Export Lumber Co. .... 45
China Merchants Steam Nav. Co. .... 38
China Mutual Life Insurance Co. .... 43
China and Manila S. S. Co. .... 31
Chinese Eng. & Mining Co. .... Cover
Chinese Eastern Railway .... 16
Cia. General de Tabacos Filipinas. .... 36
Cia. Trasatlantica .... 36
Clarke, M. A. .... 44
Commercial Press, Ltd. .... 70-71
Cook's Sons, Adam .... 61
Defiance Machine Works .... 20
Derham Bros .... 23
Detroit Engine Works .... 29
Deutsch-Asiatische Bank .... 1
Dickeson, Jones & Co. .... 48
Dollar, Co., The Robert .... 39
Earnshaw, M. & Co., Inc. .... 7
East Asiatic Dredging Co. .... 27
Easterbook Allcond & Co. .... 68
Eastern Engineering Co. .... 5
Electrical Supply Co. Inc. .... 60
Export and Import Lumber Co. .... 23
Fearon, Daniel & Co. .... 13-30
Fairbanks Morse & Co. .... 64
Ferro Machine & Foundry Co. .... 29
Fox Typewriter .... 38
Fressel, C. & Co. .... 24
Fushun Coal .... 3
Gardner Governor Co. .... 32
General Electric Co. .... 21
Germann & Co., Ltd. .... 28
Germinal Cigar Factory .... 35
Gordon & Co. .... 4
Grand Rapids Gas Engine & Yacht Co. .... 29
Gray Motor Co. .... 29
Green Island Cement Co., Ltd. .... 40
Greilsammer Bros. .... 24
Han-yeh-Ping Iron & Coal Co. Ltd. .... 78
Hanyang Iron & Steel Works .... 61
Harvey, Stuart S. .... 45
Herbrand & Co., P. .... 58
Hongkong Rope Mfg. Co., Ltd. .... 31
Hongkong & Shanghai Banking Corp. .... Cover
Hongkong & Whampoa Dock Co., Ltd. .... 10
Honolulu Iron Works Co. .... 60
Hotel St. Francis .... 65
Hupeh Cement Co. .... 42
Imperial Hotel, Ltd. .... 52
Imperial Railways of China .... 17-69-70-71
International Correspondence Schools .... 13
International Cold Stores, Ltd. .... 41
International Banking Corp. .... Cover
Jardine, Matheson & Co. .... 25
Johnson-Pickett Rope Co. .... 10
Kawasaki Dockyard Co. Ltd. .... 7
Kiangnan Dock & Engineering Works .... 8
La Parisien Carriage Factory .... 84
La Prueba .... 87
Lambert-Springer Co. .... 60
Lodge & Shipley Machine Tool Co. .... 27
Malthoid .... 74
Melchers & Co. .... 52-58
Middleton & Co. Ltd. .... 43
Michigan Steel Boat Co. .... 62
Mitsu Bishi Dockyard & Eng. Works .... 6
Mitsui Bussan Kaisha .... 5-47
Morse & Son, A. J. .... 150
Murray, Wilbur H. Mfg. Co. .... 34
New Metropole Hotel .... 52
New Engineering and Shipbuilding Works, Ltd. .... 11
New York Engineering Co. .... 58
Nicholson, C. S. .... 6
Nippon Yusen Kaisha .... 39
North British Locomotive Co. Ltd. .... 49
Olsen & Co., Walter E. .... Cover
Pacific Mail S. S. Co. .... 37
Pacific Tank and Pipe Co. .... 74
Paraffine Paint Co. .... 62
Philippine Islands .... 2
Port Banga Lumber Co. .... 24
Racine, Ackermann & Co. .... 41
Remington Typewriter Co. .... 83
Rose, Downs & Thompson, Ltd. .... 46
Russo Asiatic Bank .... 1
San Miguel Brewery .... 4
Santa Mesa Rope Works .... 13
Schuchardt & Schütte, Berlin .... 33
Shanghai Dock & Eng. Co., Ltd. .... 12
Shanghai Electric and Asbestos Co., Ltd. .... 46
Shanghai Gas Co., Ltd. .... 28
Shanghai Nanking Railway .... 15
Shanghai Machine Co. .... 26
Shanghai Waterworks Co. Ltd. .... 50
Shewan, Tomes & Co. .... 48
Siemens China Electrical Engineering Co. .... 18
Siemssen & Co. .... 22
Southern Pacific Co. .... 25
South Manchuria Railway Mining Dept. .... 3
South Manchuria Railway .... 14
Standard Oil Co. of New York .... 66-67-68
Stevenson & Co., Ltd., W. F. .... 10
Strong, Frank L. .... 45
Superior Wrench Co. .... 29
Swift & Co. .... 32
Taikoo Dockyard and Engineering Company of Hongkong, Ltd. .... 9
Thompson F. H. .... 61
Toyo Kisen Kaisha .... 37
Truscott Boat Mfg. Co. .... 50
Trussed Concrete Steel Co. .... 33
Tsingtauer Werft .... 46
United States Steel Products Export Co. .... 51-56-57
Vander Loo & Co. F. A. .... 81
Vulcan Iron Works .... 34
Vulcan Iron Works Ltd. .... 13
Warner Barnes & Co., Ltd. .... 8
Wen Ming Press .... 26
White & Co. (Inc.), J. G. .... 62
Western Electric Co. .... 60
Westinghouse Brake Co., Ltd. .... 59
Wood Waste Distilleries Co. .... 43
Woosung Car Shops .... 53
W. T. Henley's Telegraph Work Co., Ltd. .... 18
Ynchausti & Co. .... 27
Yokohama Specie Bank .... 1
Young, C. G. .... 149
Zimmerman Steel Co. .... 62


## Classified Advertisers' Directory

*(Please mention this journal)*

**AGRICULTURAL IMPLEMENTS**
Anderson & Co., W. H.
Germann & Co., Ltd.

**ALCOHOL DISTILLERS**
Cia. General de Tabacos de Filipinas.
Ynchausti & Co.
Wood Waste Distilleries Co

**ASBESTOS GOODS**
Shanghai Electric & Asbestos Co., Ltd.

**BANKS**
Deutsch-Asiatische
Hongkong and Shanghai Banking Corp.
International Banking Corp.
Banco Español Filipino
Russo-Chinese Bank
Yokohama Specie Bank, Ltd.

**BOILER MAKERS**
Babcock & Wilcox (D. W. Bell)

**BOILERS (PATENT WATER TUBE STEAM)**
General Electric Co.
Jardine Matheson & Co.

**BREWERIES**
San Miguel Brewery

**BRIDGE-BUILDERS**
Atlantic, Gulf and Pacific Co
White & Co., Inc., J. G.

**BROKERS, GENERAL**
C. S. Nicholson

**BUILDING MATERIALS**
California-Manila Lumber Com. Co.
Malthoid Paraffine Paint Co.
W. H. Anderson & Co.
Samuel McGregor & Co.

**CABLES, TELEPHONE, TELEGRAPH SUPPLIES**
David W. Bell
W. T. Henley's Telegraph Works Co., Ltd.
Melchers & Co.

**CARRIAGES**
Wilbur H. Murray Mfg. Co.

**CEMENT**
Anderson & Co., W. H.
British American Tobacco Co.
Chee Hsin Cement Co., Ltd.
Chinese Engineering and Mining Co., Ltd.
Green Island Cement Co., Ltd.
Racine, Ackermann & Co.

**CIGAR AND CIGARETTE MANUFACTURERS**
Alhambra Cigar & Cigarette Factory.
Castle Bros.-Wolf & Sons
Cia. Gral. de Tabacos de Filipinas
Germinal Cigar Factory
Olsen & Co., Walter E.
La Prueba

**CIVIL ENGINEERS**
Eastern Eng. Co.
C. G. Young

**COAL DEALERS**
Chinese Engineering and Mining Co., Ltd.
The Mitsui Bussan Kaisha
South Manchuria Railway Co.
The Han-Yeh-Ping Iron & Coal Co. Ltd.

**COAL HANDLING MACHINERY**
Atlantic, Gulf & Pacific Co.

**COFFEE DEALERS (WHOLESALE)**
M. A. Clarke (Mayon)

**CONTRACTORS, (GENERAL)**
Bohler Bros. & Co.
Frank L. Strong
Germann & Co., Ltd.
Gordon & Co.
Siemssen & Co.
White, & Co. Inc., J. G

**CONTRACTORS, ELECTRICAL**
Arnhold, Karberg & Co.
Electrical Supply Co. Inc.
Germann & Co., Ltd.
Shanghai Electric & Asbestos Co., Ltd.
Shewan Tomes & Co.
Frank L. Strong
Siemens Shuckert
Siemssen & Co.

**CONSULTING ENGINEERS**
Carmichael & Clarke.
Germann & Co., Ltd.
White & Co., Inc. J. G.
C. G. Young

**DIVING APPARATUS**
A. J. Morse & Son

**DREDGERS**
Middleton & Co., Ltd.
Melchers & Co.
New York Engineering Co.
Rose, Downs & Thompson, Ltd.

**DRY CELLS**
F. H. Thompson.

**DRY GOODS, WHOLESALE**
The H. B. Chaflin Co.

**EDUCATIONAL**
I. C. S. Correspondence Schools.

**ELECTRIC LIGHTING PLANTS**
Anderson Meyer & Co.
Arnhold, Karberg & Co.
Electrical Supply Co Inc.
Fearon, Daniel & Co.
General Electric Co.
Germann & Co., Ltd.
Siemens Snuckert
Siemssen & Co.
Shewan, Tomes & Co.
Western Electric Co.

**ELECTRICAL SUPPLIES**
Allis-Chalmers Co.
Anderson Meyer & Co.
Arnhold Karberg & Co.
Electrical Supply Co. Inc.
Jardine, Matheson & Co.
Babcock & Wilcox (D. W. Bell)
Belliss & Morcom (D. W. Bell)
Fearon, Daniel & Co.
General Electric Co.
Melchers & Co.
Shanghai Electric & Abestos Co. Ltd.
Shewan, Tomes & Co.
Siemens Shuckert
Siemssen & Co.
Western Electric Co.

**ENGINES (PUMPING)**
Allis-Chalmers Co.
Belliss & Morcom (D. W. Bell)
Siemssen & Co.

**EXCAVATORS AND ELEVATOR**
Dickeson, Jones Co.
Rose, Downs & Thompson, Ltd
Siemssen & Co.

**EXPLOSIVES**
Jardine Matheson & Co.,

**FIBRE MACHINERY**
Dailey, C. E.

**FOOD PRODUCTS**
Anderson & Co., W. H.
Swift & Co.

**GAS. ENGINES**
Fairbanks, Morse & Co.
Castle Bros.-Wolf & Sons
Detroit Engine Works
Shanghai Gas Co., Ltd.
Truscott Boat Mfg. Co.
Melchers & Co.

**HOTELS**
Astor House Hotel Co.
Hotel St. Francis
Tokyo Imperial Hotel
New Metropole Hotel

**ICE MACHINERY**
Vulcan Iron Works
Melchers & Co.

**INJECTORS**
Penberthy Injector Company.

**INSURANCE**
Stevenson & Co., Ltd., W. F.

**JOURNALS, SCIENCE**
The Philippine Journal of Science

**LIFE INSURANCE**
China Mutual Life Insurance Co., Ltd.
Shanghai Life Insurance Co., Ltd.

**LITHOGRAPHERS**
The Wen Ming Press.

**LUMBER DEALERS**
Cadwallader-Gibson Lumber Co.
California-Manila Lumber Com. Co.
Robert Dollar Co.
Export and Import Lumber Co.
Jardine, Matheson & Co.
Port Banga Lumber Co.

**MACHINERY MERCHANTS**
Anderson, Meyer & Co.
Arnhold Karberg & Co.
Shanghai Machine Co.
Fearon, Daniel & Co.
Frank L. Strong
Stuart S. Harvey
Siemssen & Co.
Schuchardt & Schutte.

**MARINE ENGINES**
Fairbanks Morse & Co.
Truscott Boat Mfg. Co.
Grand Rapids Gas, Engine & Yacht Co.

**MILL MACHINERY**
Rose, Downs & Thompson Ltd.

**MINING MACHINERY**
Allis-Chalmers Co.
Germann & Co., Ltd.
Melchers & Co.
New York Engineering Co.
Shewan, Tomes & Co.
Siemssen & Co

**MINING COMPANIES**
Chinese Engineering & Mining Co.
South Manchuria Railway Co.
Mitsui Bussan Kaisha

**MOTORS**
Grand Rapids Gas, Eng. & Yacht Co.
The Gray Motor Co.
The Ferro Machine & Foundry Co.

**MOTOR LAUNCHES**
Earnshaw, M. & Co.
Gas Engine & Power Co. and Charles L. Seabury & Co. (Consolidated)
Fairbanks, Morse & Co.
Michigan Steel Boat Co.

**OFFICE FURNITURE**
Cadwallader-Gibson Lumber Co.

**PAINTS OILS AND VARNISH**
F. A. Vander Loo & Co.
Standard Oil
Shanghai Electric & Asbestos Co., Ltd.
Adam Cook's Sons

**PHOTO ENGRAVING**
The Commercial Press

**PULLEYS (STEEL)**
Schuchardt & Schütte

**PUMPS**
Shewan, Tomes & Co.
Jardine Matheson & Co.
Henry R. Worthington.
Shanghai Machine Co.
The Gardner Governor Co.

**RAILROADS**
Chinese Eastern
Imperial Chinese Railways
Shanghai-Nanking.
South Manchuria
Southern Pacific Co.

**RAILROAD SUPPLIES**
Ackley Brake Co
American Locomotive Co.
Anderson, Meyer & Co.
Arnhold Karberg & Co.
Baldwin Locomotive Works.
Fearon, Daniel & Co.
P. Herbrand & Co.
Jardine, Matheson & Co., Ltd.
Melchers & Co.
Mitsui Bussan Kaisha
Siemssen & Co.
Westinghouse Brake Co., Ltd.
Shewan Tomes & Co.
Shanghai Machine Co.

**REINFORCED CONCRETE CONSTRUCTION**
Trussed Concrete Steel Co.

**ROOFING PAPER**
Malthoid

**ROPE MANUFACTURERS**
Hongkong Rope Mfg. Co. Ltd.
Santa Mesa Rope Works.
Ynchausti & Co.

**SANITARY ENGINEERING**
Gordon & Co.

**SAW MILLS**
Export and Import Lumber Co.
Insular Lumber Co.
Jardine, Matheson & Co.
Cadwallader-Gibson Lumber Co.
Port Banga Lumber Co.

**SERUM**
Bureau of Science

**SHIP-CHANDLERY**
Ynchausti & Co.

**SHIPPING AGENTS**
Castle Bros.-Wolf & Sons
Cia. General de Tabacos
Shewan, Tomes & Co.
Stevenson & Co., Ltd.
Warner, Barnes & Co., Ltd.

**SHIPBUILDING AND REPAIRS**
Tsingtauer Werft
Hongkong & Whampoa Dock Co., Ltd.
The Kawasaki Dockyard Co. Ltd.
Kiangnan Dock and Engineering Co., Ltd.
Mitsu Bishi Dock and Engineering Works
New Engineering and Shipbuilding Works, Ltd.
Shanghai Dock and Engineering Co., Ltd.
The Taikoo Dockyard and Engineering Company of Hongkong, Limited
Earnshaw, M. & Co.
Vulcan Iron Works, Ltd.

**STEAMSHIP COMPANIES**
American Asiatic S. S. Co.
China and Manila S. S. Co., Ltd.
China Merchants Steam Nav. Co.
Cia. General de Tabacos
Nippon Yusen Kaisha
Occidental and Oriental S. S. Co.
Pacific Mail S. S. Co.
Toyo Kisen Kaisha S. S. Co.
Transatlantica S. S. Co.
Ynchausti & Co.

**STEEL MANUFACTURERS**
United States Steel Products Export Co.
Zimmerman Steel Co.

**STEEL WORKS**
Bohler Bros. & Co.
The Han-Yeh-Ping Iron and Coal Co. Ltd.
Hanyang Iron & Steel Works.

**STRUCTURAL STEEL**
American Bridge Co.
Bohler Bros. & Co.
A. Gulf & Pacific Co.

**SUGAR MACHINERY**
Honolulu Iron Works.

**TANKS**
Atlantic, Gulf & Pacific Co.
Pacific Tank and Pipe Co.
Shanghai Dock & Engineering Co., Ltd.

**TELEPHONES**
The Western Electric Co.

**TILES AND BRICKS**
C. Fressel & Co.
Green Island Cement Co., Ltd
Chinese Eng. Mining Co.

**TOBACCO DEALERS**
British American Tobacco Co., Ltd
Cia. General de Tabacos
Olsen & Co., Walter E.

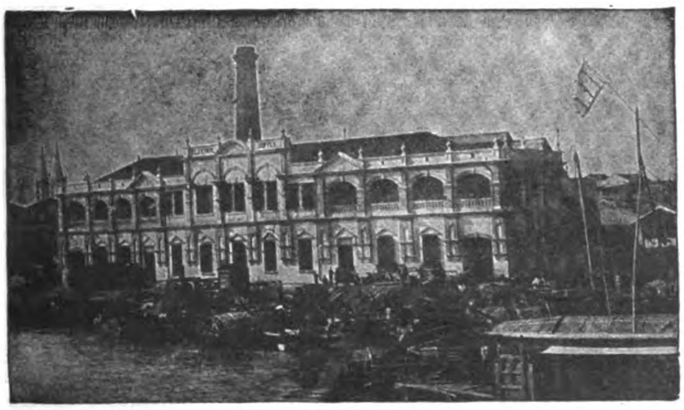
**TOOLS**
Lodge & Shipley Machine Tool Co.
Shanghai Machine Co.
Lambert-Springer Co.

**TYPEWRITERS**
The Fox Typewriter
Remington Typewriter Co.

**WINDMILLS**
Fairbanks, Morse & Co.
Defiance Machine Works.


**J. J. CHOLLOT**
INGENIEUR DES PONTS ET CHAUSSEES
CIVIL ENGINEER, SURVEYOR AND ARCHITECT
53 QUAI DU YANG-KING-PANG, SHANGHAI

**A. J. MORSE & SON, INC.**
221 High St., Boston, Mass., U. S. A.
ESTABLISHED 1837
**DIVING APPARATUS**
Special Apparatus built to order
FRANK L. STRONG, Agent -:- 24 Calle Echague, Manila, P. I.



ELECTRIC SUPPLY BUILDING, CANTON, CHINA. PURNELL & PAGET, ARCHITECTS AND ENGINEERS. BUILT KAHN SYSTEM OF REINFORCED CONCRETE.

EAST HALL, CANTON CHRISTIAN COLLEGE, CANTON, CHINA. STOUGHTON & STOUGHTON, ARCHITECTS, BUILT KAHN SYSTEM OF REINFORCED CONCRETE.


# KAHN SYSTEM

## OF REINFORCED CONCRETE

The modern way of building—Fireproof and Enduring—Costs nothing for maintenance and lasts forever.

Over 2500 *Kahn System* structures in all parts of the world—including Factories, Warehouses, Stores, Office Buildings, Hotels, Public Buildings, Bridges, Viaducts, Tunnels, Reservoirs, etc.—Over 50 important buildings for the United States Government.

Experts agree that reinforced concrete is the best building material for resisting earthquakes.

*Kahn System* controls exclusively:

**KAHN TRUSSED BARS**—for reinforcing concrete beams, girders and floors.

**RIB METAL**—for reinforcing slabs, walls, sewers and conduits.

**HY-RIB**—A self-centering reinforcement for floors and roofs. A unit of lath and studs for walls and partitions.

**RIB-LATH**—The best steel lath for plastering and stucco work.

**"TRUS-CON" CHEMICAL PRODUCTS**—for finishing and water-proofing concrete.

Our Engineering Department will be glad to assist you with designs and estimates.

Separate catalogues showing structures of every kind, giving detailed methods of design and describing our various *Kahn System* products.

## Trussed Concrete Steel Company

**HEAD OFFICE DETROIT, MICH., U. S. A.**

***Eastern Agencies:***

*PHILIPPINE ISLANDS*—California-Manila Lumber Commercial Co. Room 10, Lack & Davis Bldg., Manila, P. I.

*CHINA*—Arnhold, Karberg & Co., Hongkong, Canton, Newchwang, Tsingtau, Shanghai, Tientsin.

*JAPAN*—American Trading Co., Yokohama and Kobe.

*HAWAIIAN ISLANDS*—Honolulu Iron Works Co., Honolulu, T. H.

*The Development of the*

# Remington

*is the History of the Writing Machine*

# 10 AND 11 NEW MODELS NOW READY

**Model 10, with Column Selector**
**Model 11, with Built-in Tabulator**

## Remington Typewriter Company

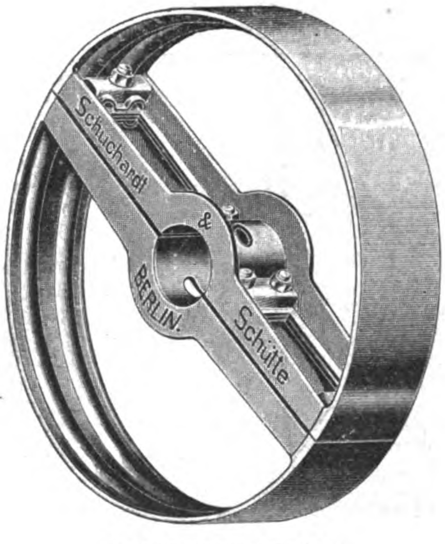
(INCORPORATED)

**New York and Everywhere**

McAlister & Co. Ltd., Singapore.
E. C. McCullough & Co., Manila.
Mustard & Co., Shanghai.
E. H. Tuska, Kobe and Yokohama.

## SCHUCHARDT & SCHUTTE

BERLIN LONDON NEW YORK



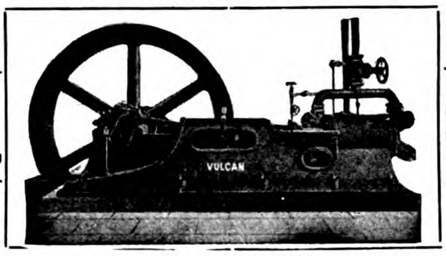
**ABSOLUTELY RIGID**

**NO BREAKAGE NO WARPING.**

FULL ASSORTMENT OF SIZES CARRIED IN STOCK BY:

TAKATA & CO., TOKYO
SHANGHAI MACHINE CO., SHANGHAI AND HANKOW.
GERMANN & CO., MANILA.
HOWARTH ERSKINE & CO., LTD., BANGKOK.
MAINTZ & CO., BATAVIA AND SOERABAYA.

# ICE MACHINES OF ANY DESIRED CAPACITY

VUL  CAN



## VULCAN IRON WORKS

**San Francisco, California, U. S. A.**

SEND FOR CATALOGUE Cable Address: "VULCAN" San Francisco

No. E-5008
Cable Name "Chindiv n";
Price $169.75 (£35-7s 4d)
Crated and F. O. B. Vessell,
New York.

# Big Vehicle Values

## "Murray" Vehicles and Harness at a Saving from 25 to 40%

Why buy vehicles and harness from a dealer when you can save from 25 to 40% by buying direct from **The Wilber H. Murray Mfg. Co.,** one of the best known vehicle, harness and saddle concerns in the world! "Murray" products are sold in every part of the world and are well known especially for our famous

## "Murray" Guarantee of Quality

Every "Murray" product is backed by our guarantee to be as represented, and you can be sure that you will make no mistake in dealing with us, as there is no question as to our responsibility and financial standing, and our honesty in dealing for the past 24 years has resulted in thousands of satisfied customers.

## The "Murray" Style Book No. 192 Absolutely Free

We cordially invite you to write for our "Murray" Style Book for 1910, which contains 152 pages, illustrating and describing 251 different designs, many of them in colors, among them 138 styles of carriages of the latest designs, 74 styles of harness and a fine saddle stock.

THE WILBER H. MURRAY MFG. CO.
321 to 329 East Fifth Street, Cincinnati, Ohio, U. S. A.

No. E 5001 Cable Name "Chimoio". Price $46 75 (£9-14 S- 10 d) Crated and F O B Vessell New York



# DREDGE "AMERICA"

## FOR SALE

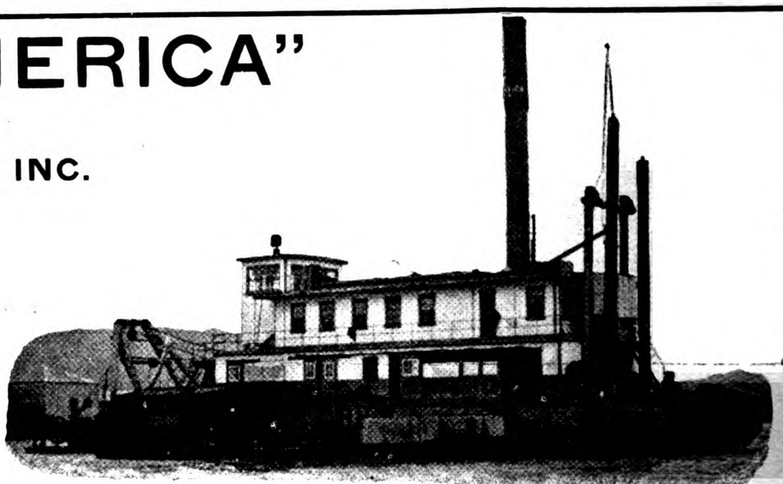
**J. G. WHITE & CO., INC.**
**MANILA, P. I.**

16 inch Hydraulic Dredge, Capacity, 7500 gals. per Minute.

For sale at one half cost account closing out plant.

Perfect condition. Has been in service less than two years.

Ready for work now, with full equipment, pontoons, pipe, spare parts.



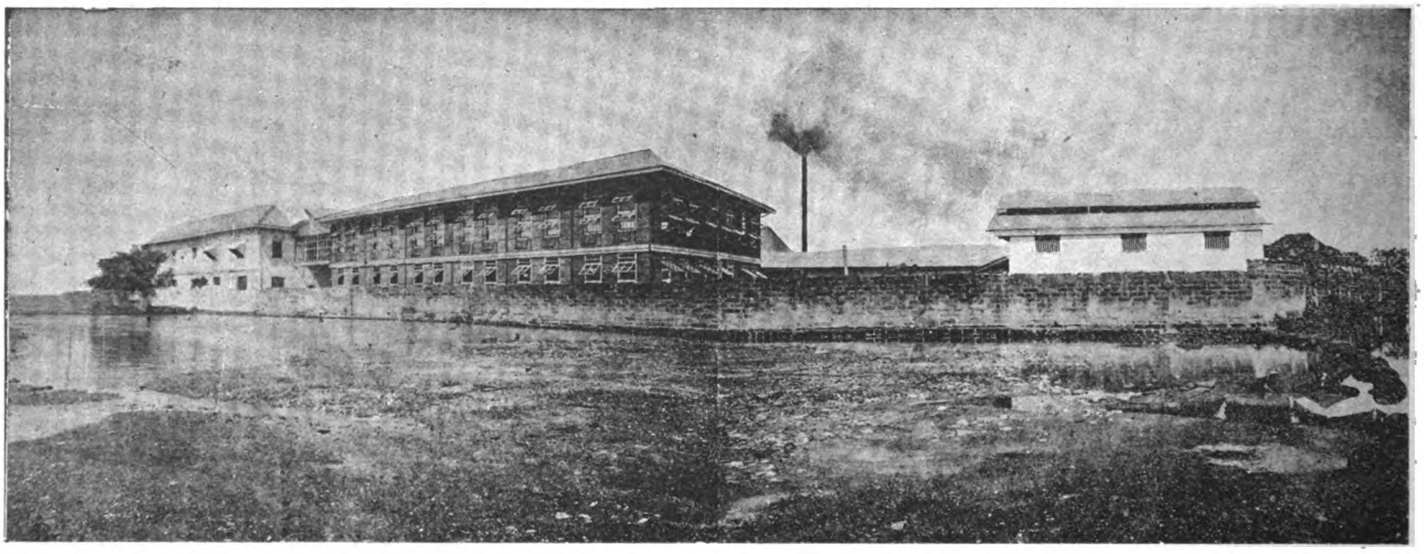


Cable Address: ALHAMBRA

# ALHAMBRA

P. O. Box 301
Telephone 527

## Cigar and Cigarette Factory, Manila, P. I.



Most perfect sanitary installations and absolute cleanliness throughout the Factory in every department.

**View of the Factory from the Riverside.**

Well ventilated, airy working rooms. Everything under European expert supervision.

A few leaders:

**Divinos, Regalia, Alha., Excelentes, Perfectos, Especiales, High Life, Incomparables, Republicanos, Imperiales, Etc., Etc.**

Why the Best:

We use nothing but finest selected Isabela leaf.
We maintain the quality of each grade by strict supervision.
We combine quality, grade and price so as to give the best return for money.

**Catalogs, Price Lists and Samples Furnished on application**

**KUENZLE & STREIFF, PROPS.**

THE

*World's Best Products*

TOBACCOS

Garrick Smoking Mixture
Glasgow Smoking Mixture
Player's Navy Cut
Player's Navy Mixture
Old English Curve Cut
Capstan Mixture
Bull Durham
Black & Tan

VIRGINIAN CIGARETTES

Three Castles
Capstan Navy Cut
Sweet Caporal
Crosscut
Garrick, Gold Tipped
Garrick, Plain
Golden Honey Dew

EGYPTIAN CIGARETTES

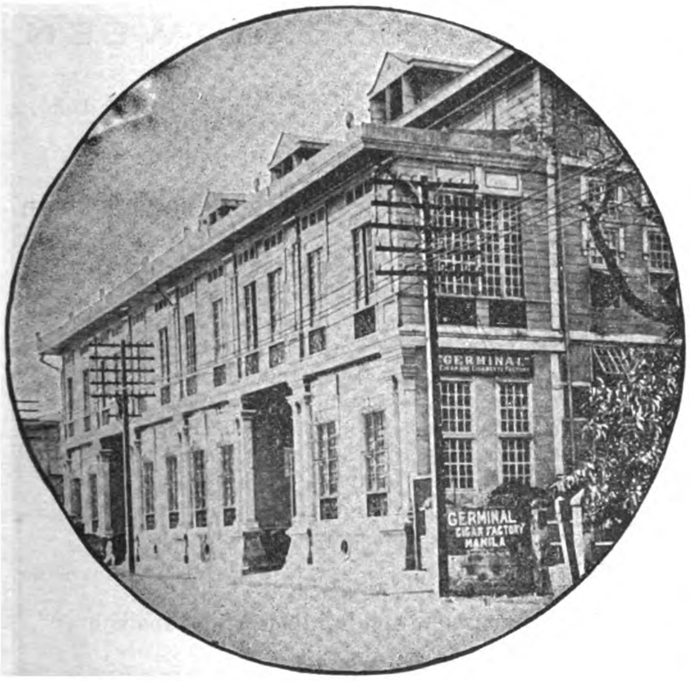
Bouton Rouge
Felucca
Nilometer
Rapido
Lotus
Natural

OBTAINABLE OF ALL DEALERS AND AT DEPOTS OF

**British-American Tobacco Company, Ltd.**

SHANGHAI -:- HONGKONG -:- MANILA -:- SINGAPORE -:- BANGKOK -:- COLOMBO -:- CHEMULPO






# "GERMINAL"

## Cigar and Cigarette Factory

**4 Calle Marques de Comillas, Manila, P. I.**

FOR A MILD CIGARETTE SMOKE TRY THE "FLOREAL"

"GERMINAL" MANILA. TRADE MARK

GERMINAL CIGARS THE UNIVERSAL FAVORITE

**This means the approval of discriminating critics; and shows an appreciation of the delicious richness of the choicest tobacco leaf, the exquisite aroma of an original blend, the finished touch throughout of an expert's hand - - - - - - - - -**

# "FLOREAL" Cigarettes

"Floreal" TRADE MARK

TELEGRAPHIC ADDRESS:
"TABACALERA"

HEAD OFFICE
BARCELONA

# COMPANIA GENERAL DE TABACOS
## DE FILIPIANS

**Established in 1882.** **Capital: £ 3,000,000**

Shipping Department, 63 Escolta.

—

Manila
General Office,
Calzada Marques de Comillas.

—

Retail Store,
63 Escolta.

BRANCHES AND AGENCIES

—

In the principal cities of the world and towns of the Philippines

—

Proprietors of the celebrated factories

## "La Flor de la Isabela"

High grade cigars manufactured with the most selected leaf grown in the estates of the Company.

SPECIAL BRANDS:

Pig's tails, Vegueros Especiales, Regalia A. Lopez, Regalia G. Pereire, Favoritos A. Lopez, Favoritos A. Correa, Perfectos Especiales, Exquisitos, Reina Victoria, etc.

**Excellent common brands.**

## "La Clementina"

Alcohol Manufactures—Gin—Distilled Spirits

**GENERAL IMPORTERS AND EXPORTERS**

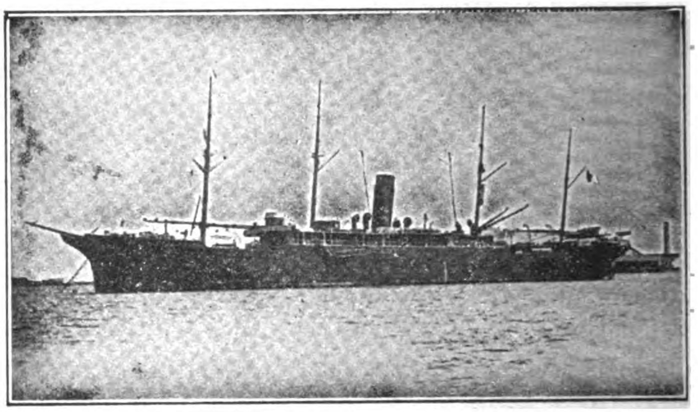
INTERISLAND STEAMERS

Under Government Contract and Inspection.
Electric Light. First Class Accommodation

**FAR EASTERN BRANCH AGENCIES:**

YOKOHAMA............ 240 Settlement.
SHANGHAI............ J. DELBOURGO, 29 Rue du Consulat.
HONGKONG............ A. R. MARTY, 2 Pedder-st.

*Spanish*
*Royal*
*Mail*



S. S. ANTONIO LOPEZ

# C.ia TRANSATLANTICA
## Late Lopez & Co.

Under Contract with R. C. M. Government

DIRECT SERVICE BETWEEN

Manila, Singapore, Barcelona and Liverpool. Calling at Colombo, Port Said, Genoa, Cadiz, Lisbon, Vigo.

**Regular passenger and freight service between**

Manila, Singapore, Colombo, Suez, Port Said, Genoa, Barcelona, Valencia, Cadiz, Lisbon, Vigo, Coruna and Liverpool. Regular monthly service between Barcelona, Cadiz, New York, Cuba and Mexico. Through tickets from Manila to New York with change of steamer at Barcelona or Cadiz. Through bill of lading to all European ports and to Atlantic Coast Ports of U. S. A. Cargo for Naples transhipped at Genoa and for London and Hamburg at Liverpool : : : : : : : : : : :

**For freight and passage and full information apply to**

AGENT DE LA

## COMPANIA TRANSATLANTICA

Plaza Moraga No. 9 Manila, P. I.

# LA PRUEBA

## *CIGAR FACTORY*

MANILA, P. I.
P. O. Box No. 856

Cable Address: PRUEBA
All Standard Codes



# THE SEMI-TROPICAL ROUTE

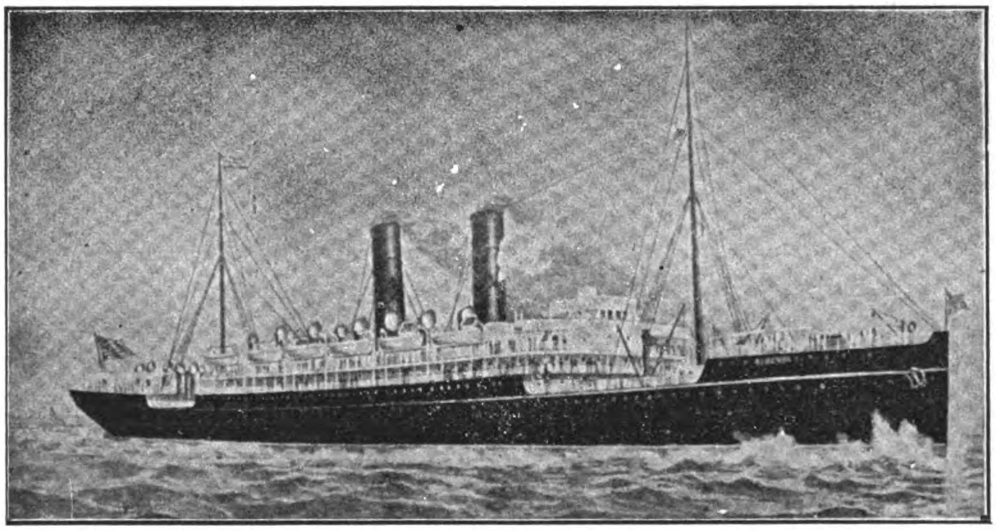
**PACIFIC MAIL STEAMSHIP COMPANY**

**TOYO KISEN KAISHA**

**DIRECT SERVICE BETWEEN SAN FRANCISCO AND THE FAR EAST**

SAN FRANCISCO
HONOLULU
YOKOHAMA
KOBE
NAGASAKI
SHANGHAI
HONGKONG
MANILA

A. M. GARLAND
FREIGHT TRAFFIC MANAGER
A. G. D. KERRELL
GENERAL PASSENGER AGENT



MANCHURIA
MONGOLIA
KOREA
SIBERIA
CHINA
ASIA
TENYO MARU
CHIYO MARU
NIPPON MARU

GENERAL OFFICE,
"FLOOD BUILDING"
SAN FRANCISCO, CAL.

**SIBERIA—Transpacific Record 10 days 10 hrs. (Yokohama-San Francisco)**

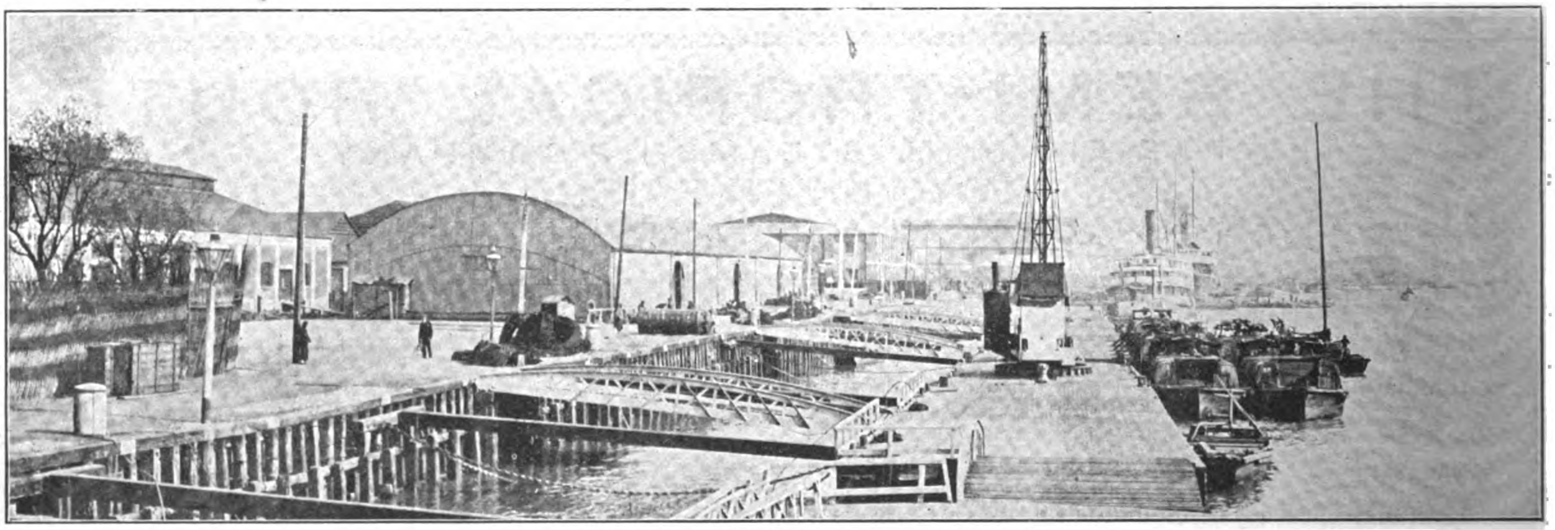
FEATURES OF THE LINE:—Southern route; passengers enjoy outdoors throughout; deck bathing. The call at Honolulu, Oahu, the most fertile and beautiful Island of the Pacific. The only line o San Francisco, the greatest port of the Pacific.

**Castle Bros.-Wolf & Sons, Agents, Manila, P. I.**

## Operating Coast and River Steamships

## Between Shanghai and all the Principal Ports of China

| | | | |
|---|---|---|---|
| SHANGHAI | AMOY | NANKING | ICHANG |
| CHEFOO | SWATOW | WUHU | CHANGSHA |
| TIENTSIN | HONGKONG | KIUKIANG | NANCHANG |
| NEWCHWANG | CANTON | HANKOW | HANGCHOW |
| FOOCHOW | CHINKIANG | SHASI | SOOCHOW, ETC. |



VIEW OF LOWER HONGKEW WHARVES

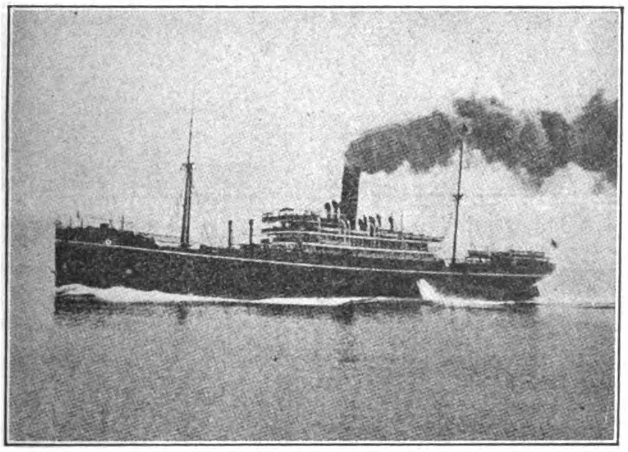
## Operating the Most Extensive and Economical System of Wharves and Warehouses in Shanghai. The Lower HongKew, Central, Eastern, and YangKadoo Wharves Possess Every Facility for Quick and Economical Dispatch.

GOODS FROM ANY PART OF THE WORLD MAY BE CONSIGNED TO OUR BONDED WAREHOUSES, AND WILL BE DISCHARGED AND STORED AT LOWEST RATES, SUBJECT TO DELIVERY AT ANY TIME TO AUTHORIZED PARTIES

H. E. TAOTAI M. Y. CHUNG
MANAGING DIRECTOR
NO. — BUND

THOMAS H. HARRIS
GENERAL MANAGER
LOWER HONGKEW WHARVES

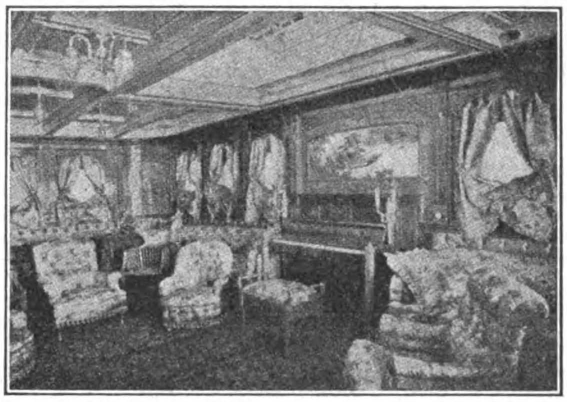
# NIPPON YUSEN KAISHA



**(JAPAN MAIL S. S. CO.)**

**Under Mail Contract with the Imp. Japanese Government**

EUROPEAN LINE ................FORTNIGHTLY
AMERICAN LINE ................FORWEEKLY (FROM KOBE FORTNIGHTLY)
AUSTRALIAN LINE................FORTNIGHTLY
YOKOHAMA SHANGHAI LINE.....TWICE A WEEK
SEVERAL LINES BETWEEN JAPAN TO NORTH CHINA, COREA, VLADIVOSTOK, ETC.



SOCIAL HALL S.S. "NIKKO MARU"

For Further Particulars concerning Freight and Passage, apply

## NIPPON YUSEN KAISHA

SHANGHAI, HONGKONG, YOKOHAMA, KOBE, MOJI, NAGASAKI AND

## WARNER BARNES & CO.

Agents, Manila



# THE ROBERT DOLLAR CO.

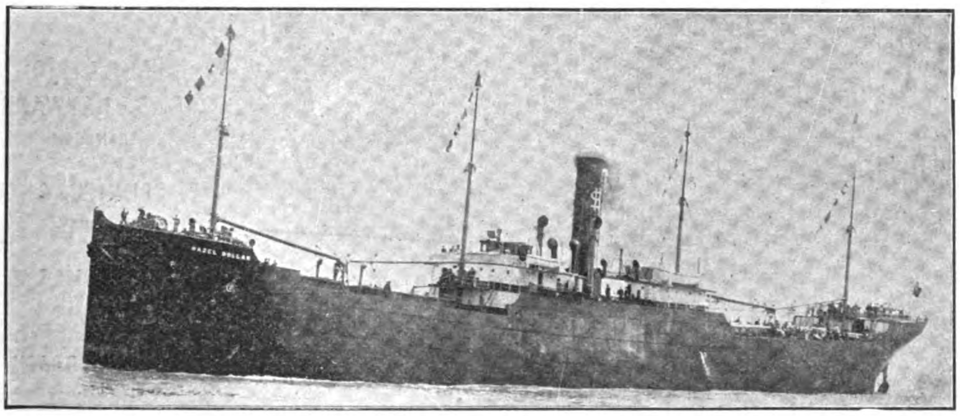
HEAD OFFICE:
60 California St, San Francisco, Cal.

CHINA OFFICE:
13 Nanking Road, Shanghai

**Mills at Tacoma, Wash., and Cortland, Ore., U. S. K.**

STEAMERS

BESSIE DOLLAR - - - - - - - HAZE DOLLAR
STANLEY DOLLAR - - - - - - - M. S. DOLLAR
MELVILLE DOLLAR - - - - - HAROLD DOLLAR
GRACE DOLLAR



S. S. "HAZEL DOLLAR"

MANUFACTURERS OF OREGON PINE, CALIFORNIA RED WOOD AND CREOSOTED SLEEPERS

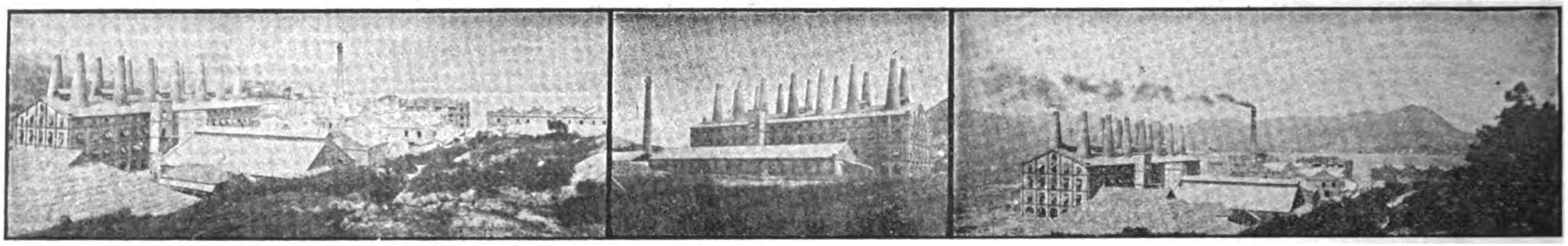
OUR MILLS ARE ESPECIALLY EQUIPPED FOR SUPPLYING RAILWAY TIMBER ORDERS, AND WE MAKE PROMPT DELIVERY BY OUR OWN STEAMERS

CABLE ADDRESS:

**"DOLLAR"**

A. B. C. 5th Ed.: Southard's Codes

# GREEN ISLAND CEMENT

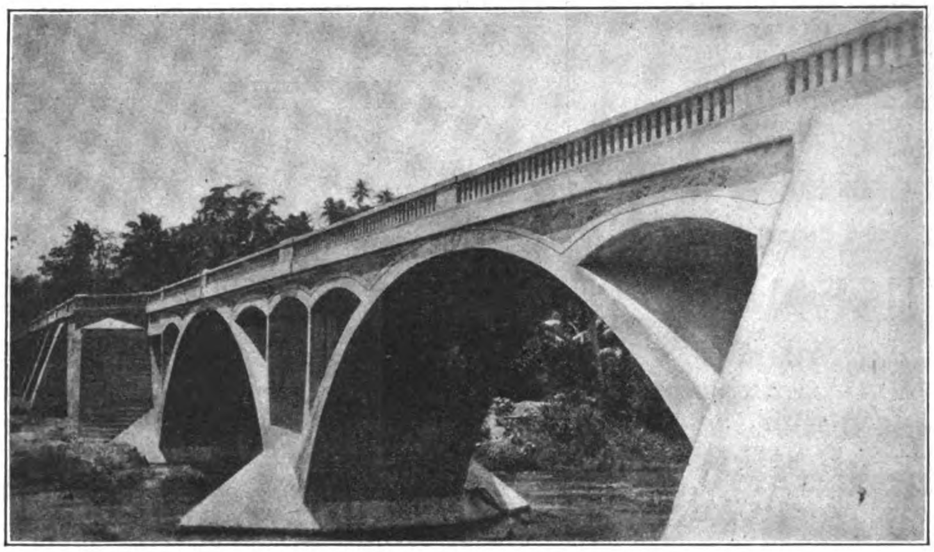


WORKS OF THE GREEN ISLAND CEMENT COMPANY, LIMITED, HONGKONG

Glazed
Stoneware

---

House
Drain
and
Sewer Pipes
and
Fittings
In Stock



PARABOLIC ARCH BRIDGE, ALBAY—2500 BARRELS OF GREEN ISLAND CEMENT USED IN ITS CONSTRUCTION

Glazed
Paving
Bricks
and
Tiles

---

Fire
Bricks
and
Fire
Clay

**Agents:**

WM. H. ANDERSON & CO.
MANILA, P. I.

SHEWAN, TOMES & CO.
SHANGHAI

SHEWAN, TOMES & CO.
JAPAN

TURNER, MORRISON & CO.
CALCUTTA

**Agents:**

C. B. HAYWARD
RANGOON

E. SPINNER & CO.
BOMBAY

SHEWAN, TOMES & CO.
TIENTSIN

W. A. STOPANI
SINGAPORE

R. HENDERSON
PENANG

SANTA CRUZ BRIDGE

# Wm. H. ANDERSON & CO.

MANILA, P. I.

IMPORTERS AND EXPORTERS: COMMISSION AGENTS

AGENTS IN THE PHILIPPINES FOR

| | | | |
|---|---|---|---|
| GREEN ISLAND CEMENT COMPANY | LIBBY, McNEILL & LIBBY | DIEBOLD SAFES | GLAZED SEWER PIPE |
| HONGKONG ROPE MFG. CO. | SWIFT & COMPANY | AERMOTOR COMPANY | FIRE BRICK, FIRE CLAY |
| FARM AND ROAD WAGONS | BRUNSWICK-BALKE COLLENDER CO. | LUBRICATING OILS | RUBEROID ROOFING |

*Use Dragon Brand for Highclass Solid and Enduring Construction*

GENERAL AGENTS FOR CHINA

# *RACINE ACKERMANN & CO.*

*NO. 4 YANG-KING-PANG, SHANGHAI*

**THE CHEE HSIN CEMENT CO., Ltd.**

**TANGSHAN PORTLAND CEMENT**

In barrels of 375 lbs. (170 kg.) net

Tangshan Portland Cement, manufactured of the best raw material at our new extensive works which have recently been erected and equipped with the newest and most up-to-date machinery, flint-mills, rotary-ovens, etc., etc., is of superior quality and

**EQUAL TO THE BEST EUROPEAN BRANDS**

Awarded Silver Medal at St. Louis Exposition 1904

*Shanghai Agent:*
*E. WOYAN*
*47 Quai de France*

In bags of 187½ lbs. (85½ kg.) net

Tangshan Portland Cement is universally used throughout North China by Railways, Engineering Works, Mining Companies, Municipalities, etc. Orders of large extent accepted for delivery at short notice.

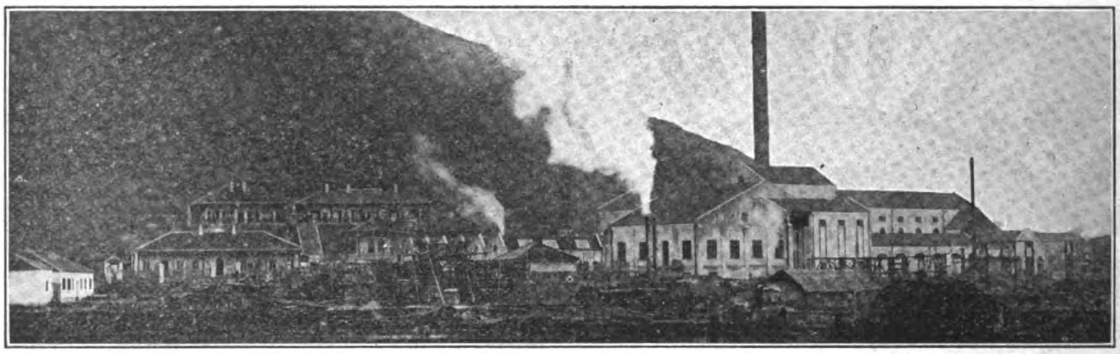
**CEMENT MOSAIC TILES**
**CEMENT ROOFING TILES**
**CEMENT PAVING TILES**
**CEMENT DRAIN PIPES**
**FIREBRICKS**
**FIRECLAY TILES**
**GROUND FIRECLAY**

For particulars and prices apply to

**THE CHEE HSIN CEMENT CO., Ltd.**

Head Offices:
TIENTSIN

*Hankow Agent:*
*CHING CHONG*



**TAYEH, HUPEH PROVINCE, CHINA**

TELEGRAPH ADDRESS:
"SHUINEE"

SHANGHAI OFFICES:
221 NINGPO ROAD
TELEPHONE, 3431

HANKOW OFFICES:
CHINESE BUND,
CHONG PING LANE

ONE OF FOUR GRAB DREDGERS SUPPLIED TO THE GREAT WESTERN RAILWAY CO.

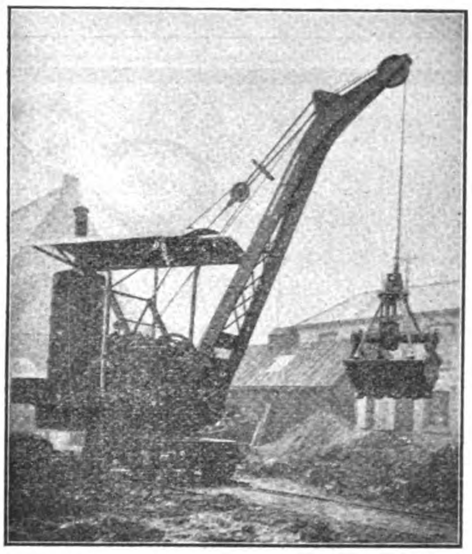
# PRIESTMAN BROTHERS, LIMITED

HULL AND
3 LAURENCE POUNTNEY HILL,
CANNON ST., LONDON, E. C.

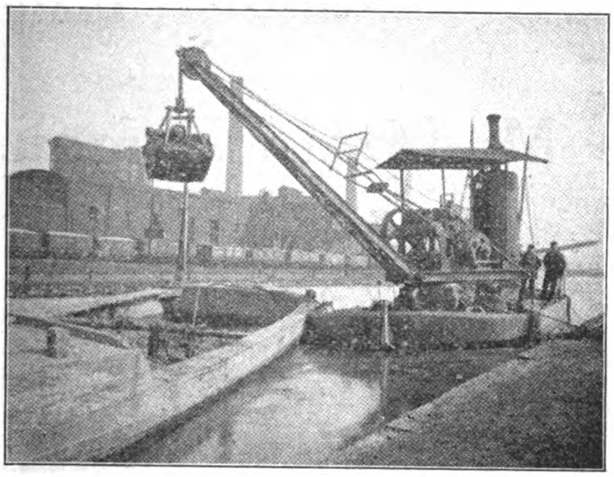
## DREDGERS, EXCAVATORS AND ELEVATORS

150 DIFFERENT TYPES AND SIZES OF GRABS TO SELECT FROM 1 TO 150 CUBIC FEET CAPACITY

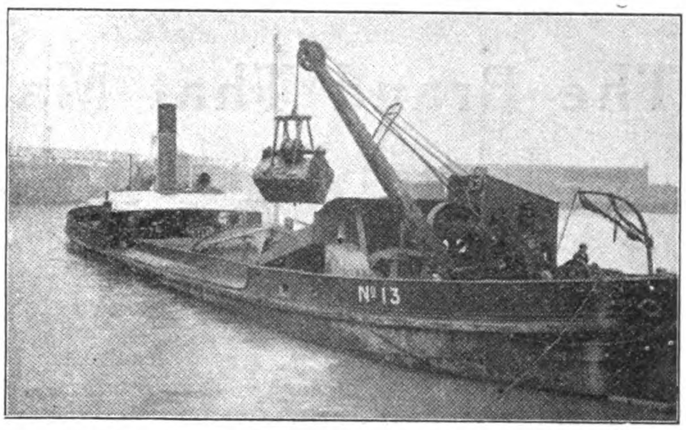
PRICES AND FULL PARTICULARS ON APPLICATION TO



ONE OF A LARGE NUMBER OF GRABS TAKEN BY MESSRS. S. PEARSON & SON, LTD., CONTRACTORS



ONE OF A NUMBER OF GRAB DREDGERS SUPPLIED TO THE LONDON & NORTH WESTERN RAILWAY COMPANY





ONE OF FIFTEEN GRAB DREDGERS SUPPLIED TO THE LIVERPOOL DOCKS BOARD

**MIDDLETON & CO. LTD., SHANGHAI, AGENTS FOR CHINA**

# THE PREMIER COMPANY OF THE EAST

## Agencies from London to Manchuria

EXTRACT FROM 12th ANNUAL REPORT
SHEWING A RECORD PROGRESS : : :

| | |
|---|---|
| Insurance in Force | $37,855,885 |
| Assets | $ 8,415,250 |
| Income | $ 3,566,559 |
| Total funds | $ 8,216,812 |

*Low Rates!*

*Unconditional Policy!*

*Largest Bonuses!*

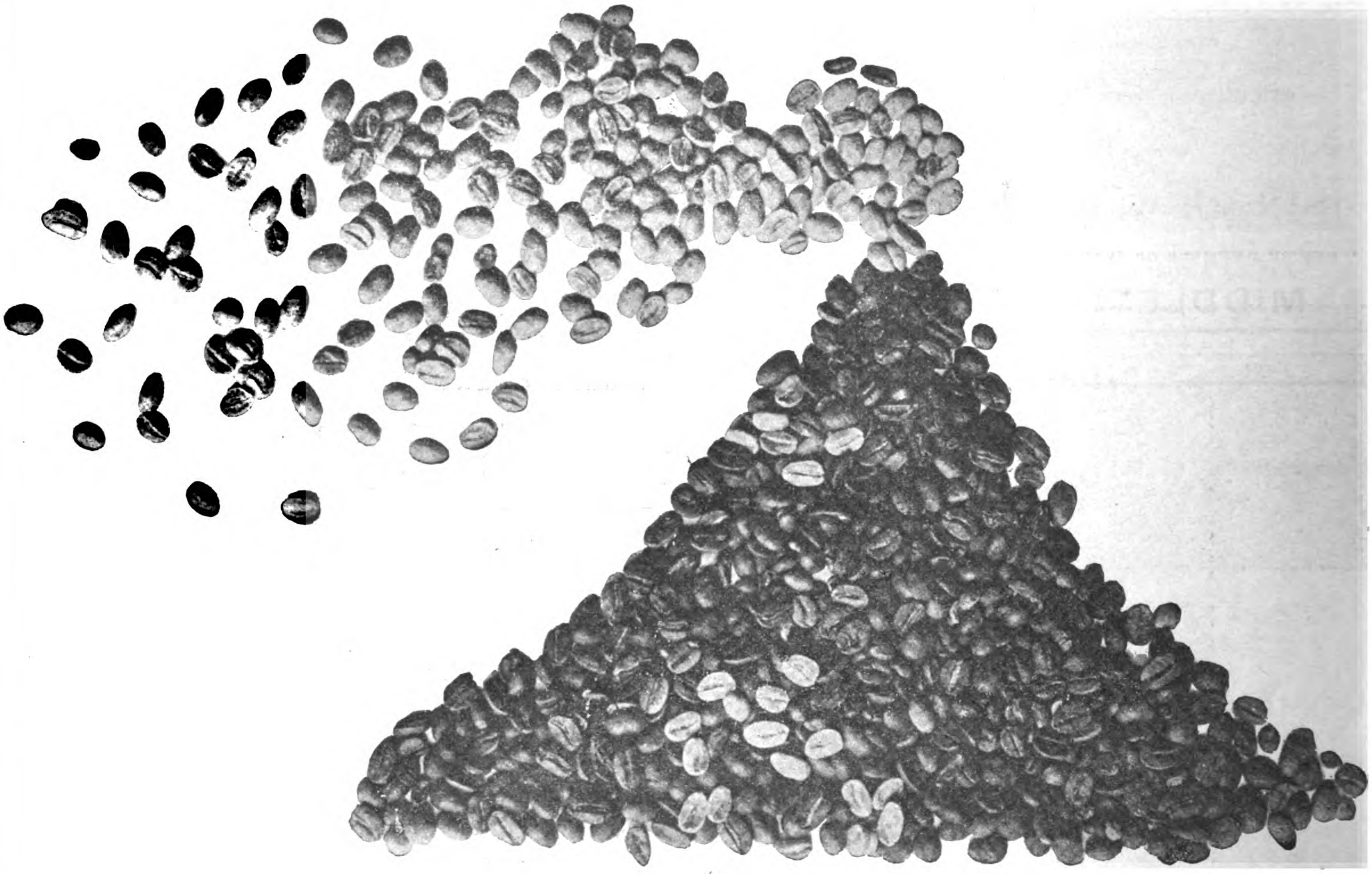
Registered under Hongkong Ordinances and under the Life Assurance Companies' Acts, England; and offers its Home-Returning policyholders the Double Advantage of being able to pay their Premiums to the Company's London and American Agents, Messrs. Thomas Cook and Sons, at reduced rates.

# CLARKE'S

## MAYON COFFEE

MANILA PHILIPPINE IS.

**The Brand That Made The Mountain Famous**



## CLARKE'S MAYON COFFEE

EQUALS "SATISFIED CUSTOMERS"

**Once Tried Always Used—Never Refused**

## Frank L. Strong

Cable Address: STRONG

Telephone No. 360 P. O. Box 772

## Stuart S. Harvey

Cable Address: HARVISTON

Telephone No. 360 P. O. Box 277

**Offices: 34-40 Calle Echague, Manila, P. I.**

EXCLUSIVE AGENTS

FOR LEADING

## AMERICAN AND EUROPEAN MANUFACTURERS

LEADING SPECIALTIES

| | |
|---|---|
| Electrical Machinery and Supplies | Steam Engines and Boilers |
| Saw Mill and Planing Mill Machinery | Kerosene and Gasoline Engines |
| Locomotives and Railway Equipments | Ice and Refrigerating Machines |
| Air Compressors and Pneumatic Tools | Sugar, Rice and Fibre Machinery |
| Agricultural and Road Making Machinery | Mining and Hydraulic Machinery |
| Mechanic's Tools, Builders' Hardware, etc,, etc, | Complete Machine Shop Equipment |

**SPECIFICATIONS DRAWN** **ESTIMATES GIVEN**

# SOLIGNUM

THE RAVAGES OF THE **WHITE ANT**, DECAY, FUNGUS AND DRY ROT DESTROY PROPERTY TO THE VALUE OF MILLIONS YEARLY

THE ONLY SURE AND RELIABLE PROTECTION IS

## "SOLIGNUM"

CAN BE APPLIED IN MANY SHADES OF COLOR TO STONE, WOOD OR BRICKWORK. SOLD IN 5 AND 10 GALLON DRUMS AND 40 GALLON CASKS

# PROTECTS

*For Sale by* **THE CHINA IMPORT EXPORT LUMBER CO., Ltd.** SHANGHAI, HANKOW, TIENTSIN, TSINGTAU

*Hongkong and Canton:* SIEMSSEN & CO. -:- *Foochow:* SIEMSSEN & KROHN -:- *Amoy:* PASEDAG & CO.

# The Tsingtauer Werft Tsingtau

## CHINA

**Largest floating dock in China**
**Capacity 16000 tons**
**for ships up to 460 feet length**

**Builders and repairers of ships and engines.**

**All kinds of repairs done with despatch.**

**Electric crane to lift 150 tons.**

Telegraphic address: WERFT TSINGTAU

Codes used: A.B.C. Code, 5th Ed. A-1 Code.



# ROSE, DOWNS & THOMPSON, LTD.

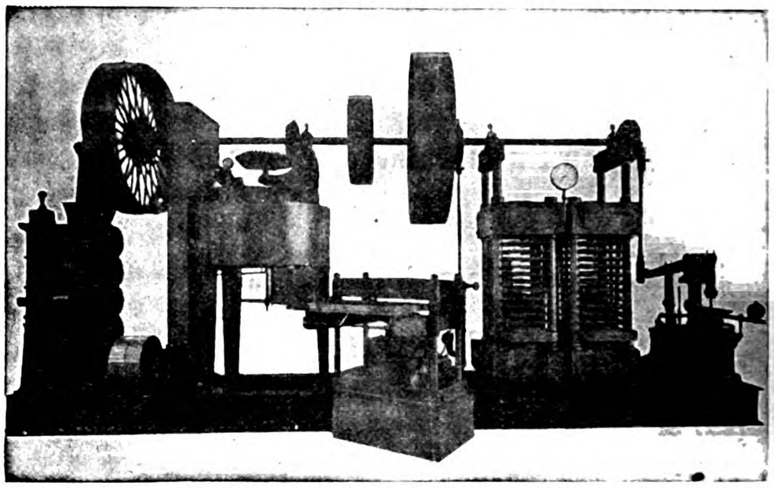
ESTABLISHED 1777

**EASTERN OFFICE: 13 NANKING ROAD, SHANGHAI**

CABLE ADDRESS: "ROSEDOWNS," SHANGHAI

HEAD OFFICE AND WORKS, HULL, ENGLAND

**CONTRACTORS TO HOME, COLONIAL AND FOREIGN GOVERNMENTS**



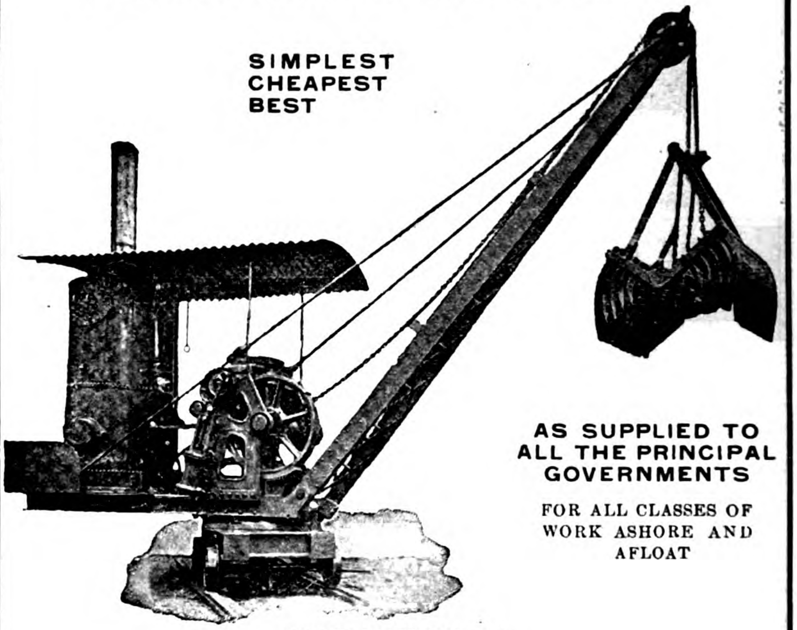
**OLDEST AND LARGEST MANUFACTURERS IN THE WORLD OF**

## OIL MILL MACHINERY

SUITABLE FOR THE TREATMENT OF EVERY VARIETY OF OIL-BEARING SEED AND NUT; ON THE MOST EFFICIENT AND MODERN PROCESSES

OVER 4,000,000 TONS OF SEEDS AND NUTS CRUSHED ANNUALLY IN MACHINERY MANUFACTURED BY US

SIMPLEST
CHEAPEST
BEST



AS SUPPLIED TO ALL THE PRINCIPAL GOVERNMENTS

FOR ALL CLASSES OF WORK ASHORE AND AFLOAT

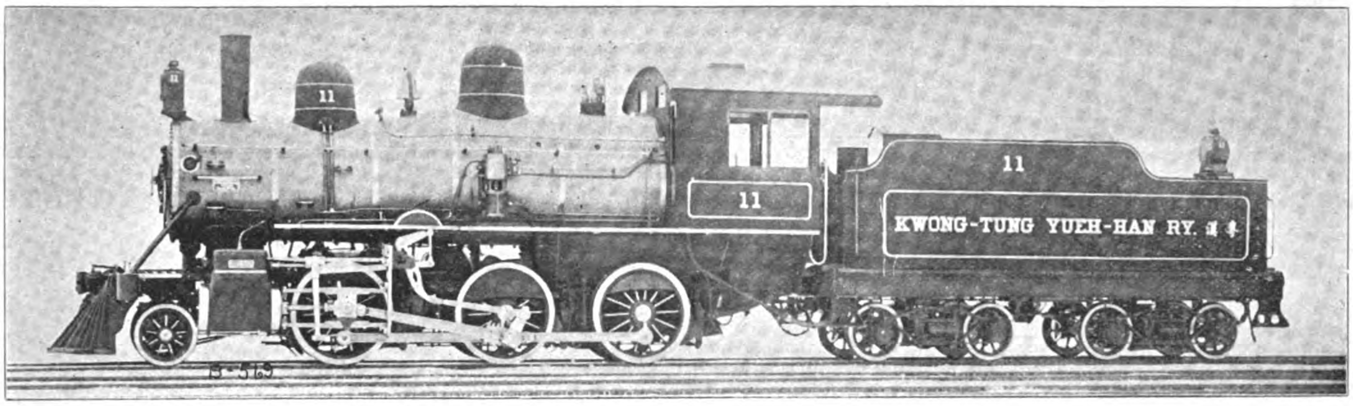
SOLE MAKERS OF

## The "Kingston" Grab Dredger and Excavator

POSSESSES IMPORTANT ADVANTAGES OVER ALL OTHER SYSTEMS

FOR DEEPENING RIVERS, DOCKS, CANALS, AND HARBOURS, EXCAVATING CLAY AND SAND, LIFTING ROCKS, DISCHARGING GRAIN, ETC., ETC.

**CATALOGUE, ESTIMATES AND FULL INFORMATION ON APPLICATION**




# MITSUI BUSSAN KAISHA

ENGINEERING DEPARTMENT

Tokyo, Hongkong, Shanghai, Tientsin, Newchwang,
Canton, Hankow, Dairen, Mukden, Changchun, etc.

**Locomotives, Passenger Coaches, Freight Cars, Bridges, Rails, etc.**

**Railways equipped throughout with the most modern Standard Appliances**

RAILWAYS IN CHINA FULLY OR PARTIALLY
EQUIPPED WITH MATERIALS SUPPLIED BY THE MITSUI BUSSAN KAISHA
SOUTH MANCHURIA RAILWAY; ANTUNG-MUKDEN LINE; KIANGSI RAILWAY; PEKING-HANKOW RAILWAY;
KIANGSU RAILWAY; CHEKIANG RAILWAY; SWATOW-CHAOCHOWFU RAILWAY; ETC.

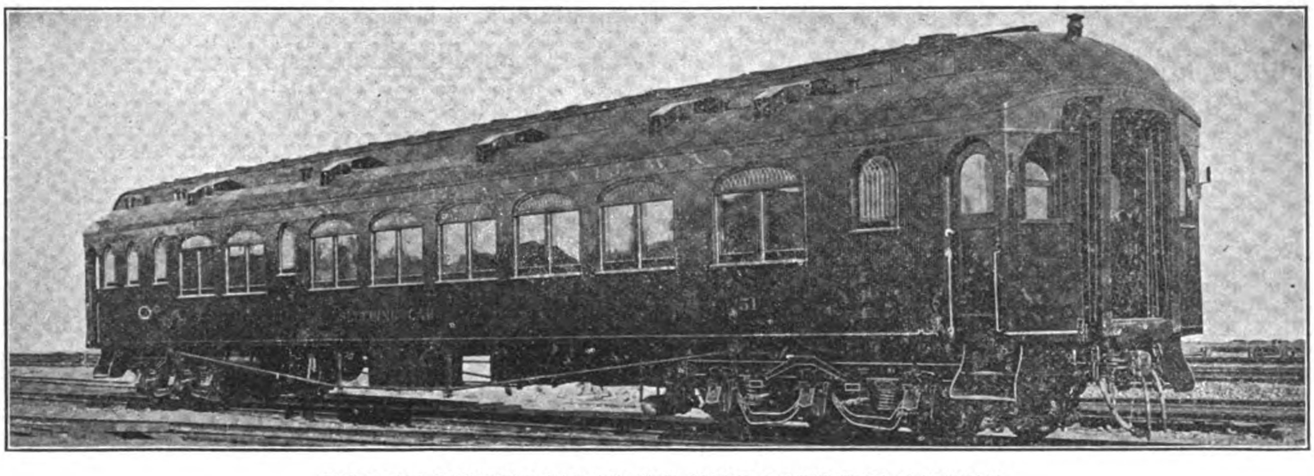
AGENTS IN JAPAN, KOREA, MANCHURIA AND CHINA FOR

**American Locomotive Co., Gould Coupler Co., The Pullman Co., Safety Car Heating & Lighting Co., Jones Laughlin Steel Co., Union Switch & Signal Co., etc.**

AGENTS FOR JAPAN AND KOREA:

**The Pyle National Headlight Co.**

RAILWAY MACHINE SHOPS FITTED COMPLETE WITH THE MOST APPROVED TYPES OF SPECIAL MACHINE TOOLS.



PULLMAN SLEEPING CAR ON THE SOUTH MANCHURIA RAILWAY

## Supplied by the MITSUI BUSSAN KAISHA

KOBE
CANTON
HONGKONG
SHANGHAI
TIENTSIN
NEW YORK

# SHEWAN, TOMES & Co

LONDON
OFFICE
27
LEADENHALL
STREET
LONDON, E.C.

**IMPORT AND EXPORT MERCHANDISE, COMMISSION AND SHIPPING AGENTS**

## London—Hongkong—Canton—Shanghai—Tientsin—Kobe—New York

**Telegraphic Address:**
**"KEECHONG," All Branches.**

**Hongkong Post Office Box: No. 131B**
**Shanghai Post Office Box: No. 84**

## General Managers of

The China Light & Power Co., Ltd., Hongkong
The Green Island Cement Co., Ltd., Hongkong
The Hongkong Rope Mfg. Co., Ltd., Hongkong
The China Provident Loan & Mortgage Co., Ltd., Hongkong
The Whangpoo Wharf and Godown Co., Ltd., Shanghai
The China and Manila Steamship Co., Ltd., Hongkong
The Canton Land Co., Ltd.
Equitable Life Assurance Society of the United States, Hongkong

## Agents for

American Asiatic Steamship Co.
American Manchuria Line, Hongkong
J. Marke Wood's Line of Steamers
The Yangtsze Valley Company, Ltd.
The Electric Traction Co. of Hongkong, Ltd.
The American China Development Co.
The Yangtsze Insurance Association, Ltd., Hongkong
World Marine Insurance Co., Hongkong
Reliance Marine Insurance Co., Hongkong
Union Marine Insurance Co., Ltd., Hongkong
Batavia Sea and Fire Insurance Co., Hongkong
Glen Line of Steamers, Hongkong
The British Dominions Marine Insurance Co., Ltd., Hongkong
North British & Mercantile Insurance Co., Hongkong
Law Union & Crown Insurance Co., Hongkong
Yorkshire Fire and Life Insurance Co., Hongkong
Fireman's Fund Insurance Co. (Fire only), Hongkong
Insurance Company of North America, Hongkong
The Chinese Engineering and Mining Company, Ltd., Hongkong
Shanghai Pulp and Paper Co., Ltd., Hongkong
The International Sleeping Car and Express Trains Co., Hongkong
(Trans-Siberian Railway), Hongkong
Tacoma Grain Co.
Birkmyre Bros.

# MACHINERY DEPARTMENT

## Shanghai, Telephone No. 3487

**ELECTRIC LIGHT & POWER PLANTS. RAILWAY, MINING, MILL AND INDUSTRIAL PLANTS AND EQUIPMENT; SAFETY WATER-TUBE BOILERS; STEAM TURBINES; PUMPS, GAS ENGINES, PRODUCERS, ETC. ENGINEERING AND ELECTRICAL SUPPLIES**

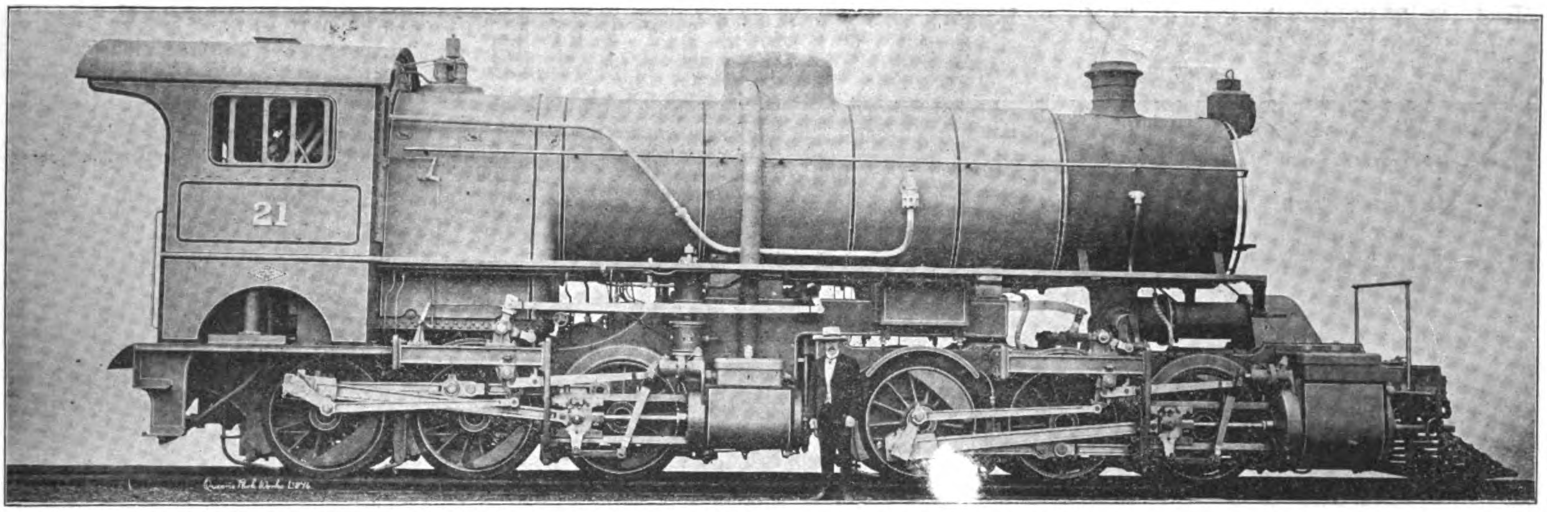
**上海英商新旗昌洋行機器處廣告**

本行樓子房現設江西路六號 電話三四八七號

本行經理各種機
器如紡織碾米榨
油磨麪造紙開礦
墾荒抽水挖坭大
小火輪全副引擎
鍋爐及火車頭客
車貨車鐵路材料
並自來水一切物
件其餘鋸木車鑽
刨床各式大小引
擎鍋爐及磨電機
發動機煤氣引擎
發煤氣機以及得
律風電燈電氣應
用一切另件等具
色色俱全均係外
洋著名廠家特別
精造新式玲瓏堅
固但各項名目繁
多未便盡載倘承
賜顧或蒙函詢當
即竭誠詳細奉答
價亦格外克已以
廣招徠尚祈惠臨
方知言之不虛謬
也

**SOLE REPRESENTATIVES IN CHINA FOR**

British Insulated & Helsby Cables Ltd. (Hongkong and S. China).
British Westinghouse Electric & Manufacturing Co., Ltd.
Browett Lindley & Co., Ltd., England.
Barber Asphalt Paving Co., U. S. A.
Fraser & Chalmers Ltd., England.
J. G. Brill Co.
Lima Locomotive & Machine Co., U. S. A.
The London Phosphor, Copper & Bronze Co.
Manning, Maxwell & Moore, Inc., U. S. A.
Power Pulley Co., Ltd., England.
Power Gas Corporation Ltd., England, (except bituminous plants)
Ransomes, Sims & Jefferies, Ltd., England.
Rhodes Motors Ltd., England
Sullivan Machinery Co., U. S. A., South China.
Turner Bros. Ltd., England, North China.
Wason Manufacturing Co., U. S. A.
The Wolf Co., U. S. A.
Wolverine Motor Works, U. S. A.
Water Tube Boiler Co., Ltd., England




MALLET TYPE ENGINE FOR THE PEKING-KALGAN LINE MADE BY THE NORTH BRITISH LOCOMOTIVE CO.

# North British Locomotive Co., Ltd.

**HYDE PARK WORKS**
(Late NEILSON, REID & CO.)

**QUEEN'S PARK WORKS**
(Late DUBS & CO.)

**ATLAS WORKS**
(Late SHARP, STEWART & CO., Ltd.)

**Head Office and Administration Building: SPRINGBURN, GLASGOW**

LONDON OFFICE:—17, VICTORIA STREET, WESTMINSTER, S. W.

Telegrams: LOCO., GLASGOW

BUILDERS OF ALL KINDS OF

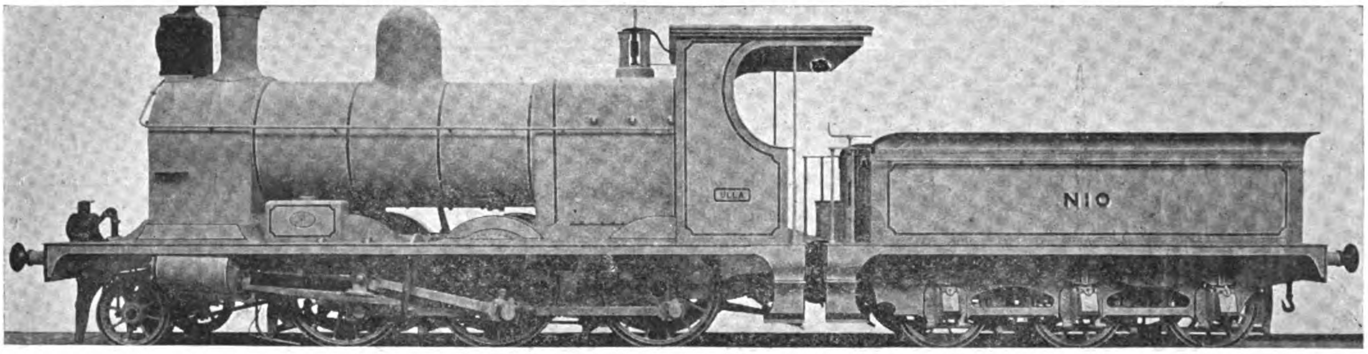
## Locomotive Engines and Tenders Suitable for any Gauge of Railway

| ANNUAL CAPACITY: | WORKSHOPS EQUIPMENT: | OUTPUT NOW EXCEEDS: |
|---|---|---|
| 700 | 8000 | 19,000 |
| MAIN LINE LOCOMOTIVES | MEN | LOCOMOTIVES |

## AGENTS IN THE EAST

**China: Messrs. Jardine Matheson & Co., Ltd., Hongkong and China**

**Japan and Manchuria: Messrs. Okura & Co., Tokyo**

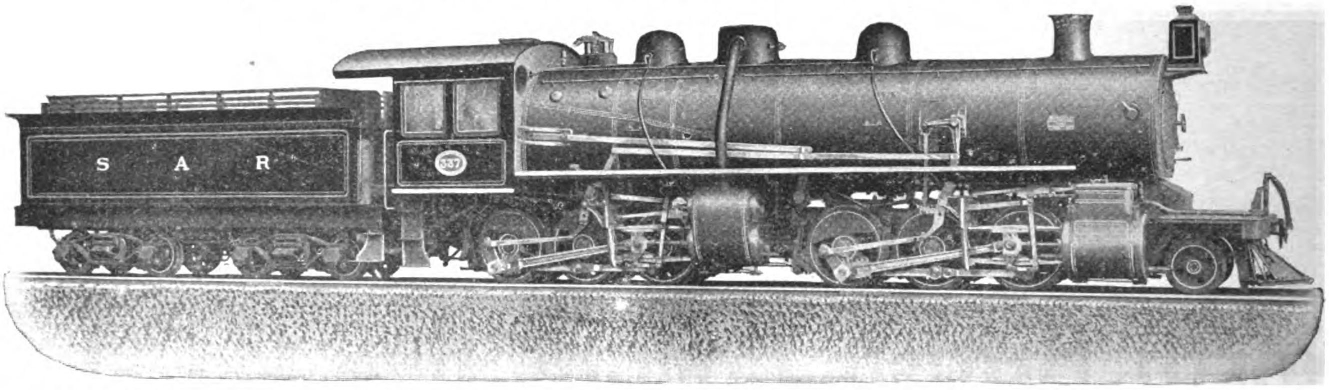


TYPE OF NORTH BRITISH LOCOMOTIVE SUPPLIED TO THE TIENTSIN-PUKOW—SOUTHERN SECTION

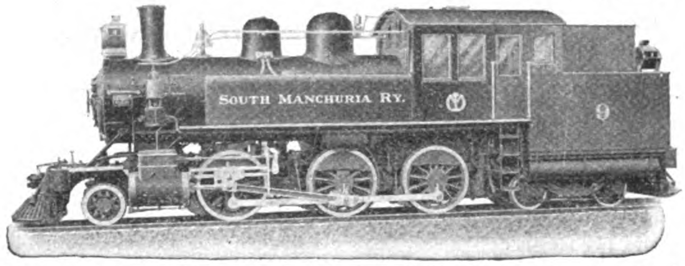
## THE LARGEST LOCOMOTIVE WORKS IN EUROPE

# AMERICAN LOCOMOTIVE COMPANY

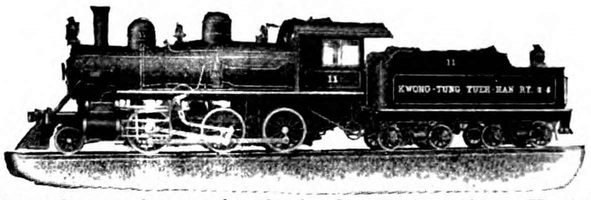
## 30 Church Street, New York, U. S. A.
## Cable Address: Locomotive, New York



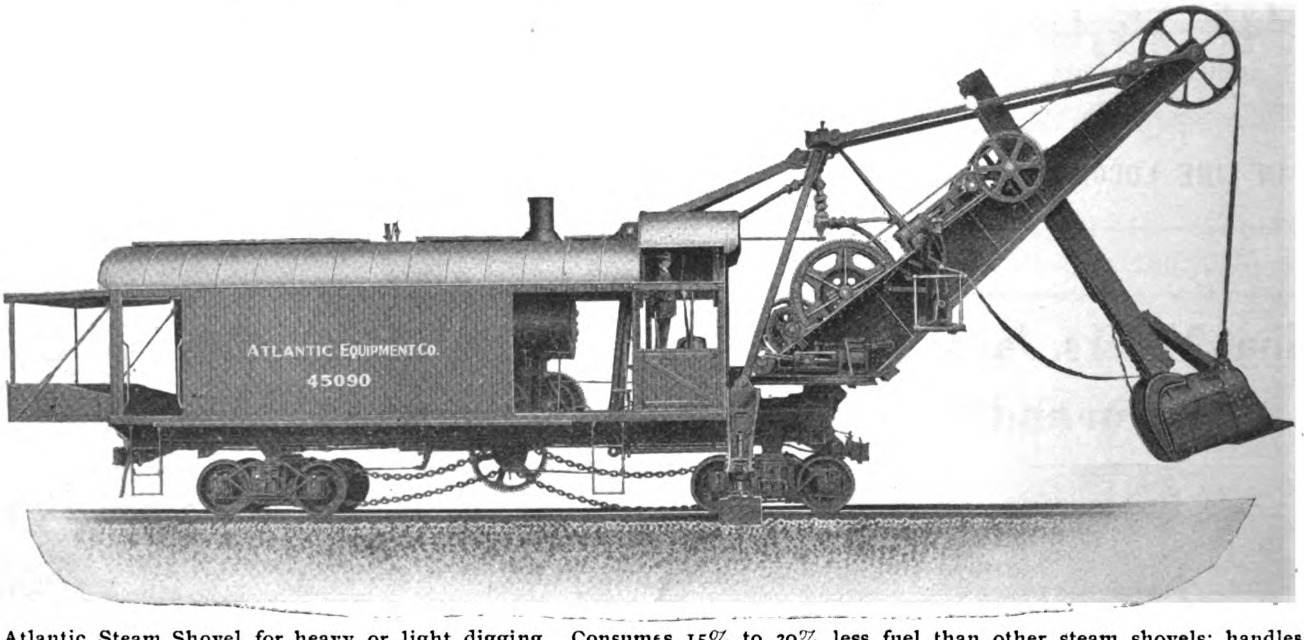

Articulated compound locomotive built for South African Government Railways to operate heavy trains on roads with steep grades and sharp curves.




Six coupled, double end locomotive built for South Manchuria Railway.



Mogul type locomotive built for Kwong-Tung Yueh-Han Railway.




Atlantic Steam Shovel for heavy or light digging. Consumes 15% to 30% less fuel than other steam shovels; handles more material; is not top-heavy; has higher lift and shorter boom. Two of these shovels are in successful operation on the South Manchuria Railway.

# MITSUI & COMPANY

Sole Agents for

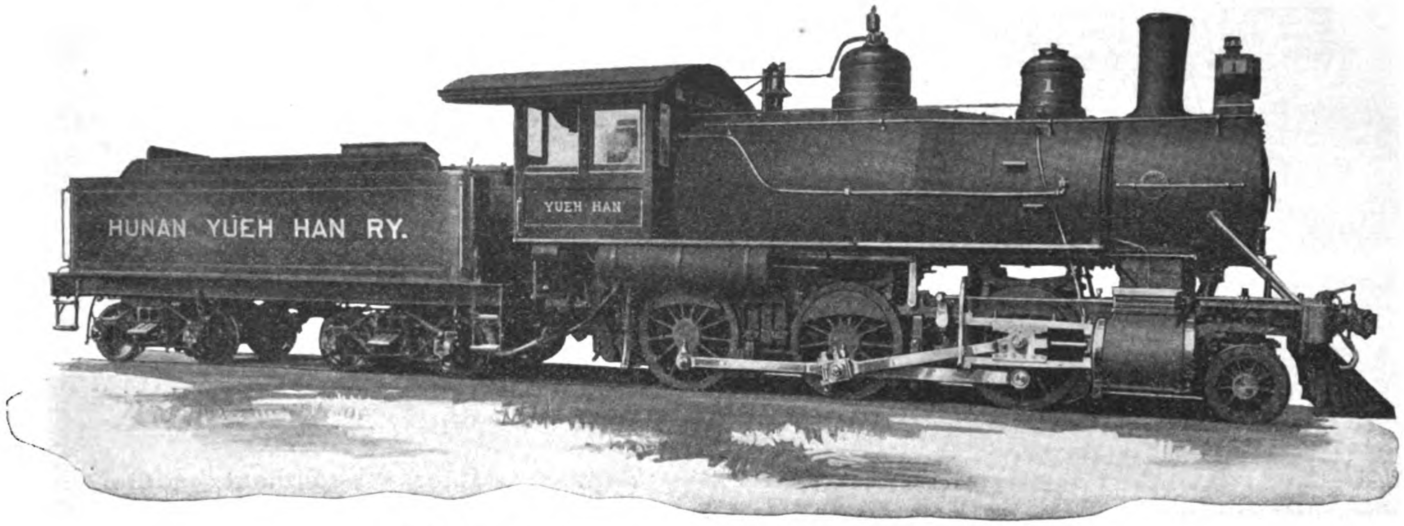
*China, Japan, Korea, Manchuria and Siam*

# Baldwin Locomotive Works

**500 North Broad St., Philadelphia, Pa., U. S. A.**

**Steam, Electric and Compressed-Air**

# LOCOMOTIVES




PASSENGER LOCOMOTIVE FOR THE YUEH HAN RAILWAY

## *ELECTRIC MOTOR & TRAILER TRUCKS*

**Cable Address: "Baldwin, Philadelphia"**

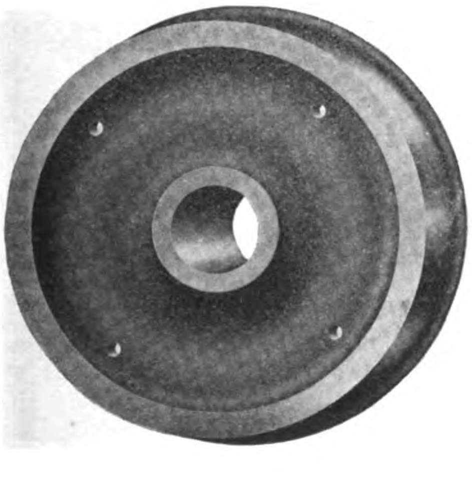
**Agents for China: ARNHOLD, KARBERG & CO.**
HONGKONG, SHANGHAI, TIENTSIN, HANKOW

**Agents for Japan: SALE & FRAZAR, LTD.**
YOKOHAMA and KOBE

# STANDARD STEEL WORKS CO.

**HARRISON BUILDING, PHILADELPHIA, PA., U. S. A.**

Cable Address: STEELTIRES, PHILADELPHIA



**Standard**

SOLID FORGED AND ROLLED

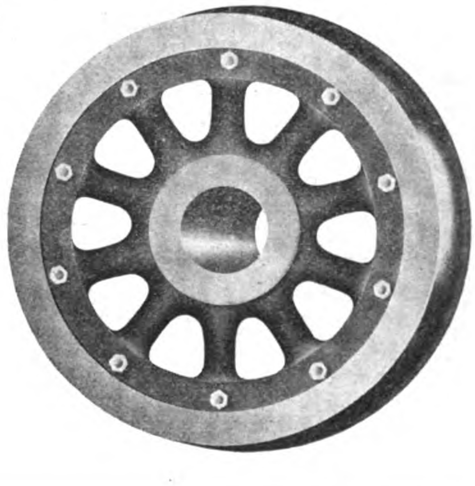
**Steel Wheels**

STEEL TIRED WHEELS & STEEL

**Tires**

STEEL AND IRON AXLES
CASTINGS, FORGINGS AND

**Springs**

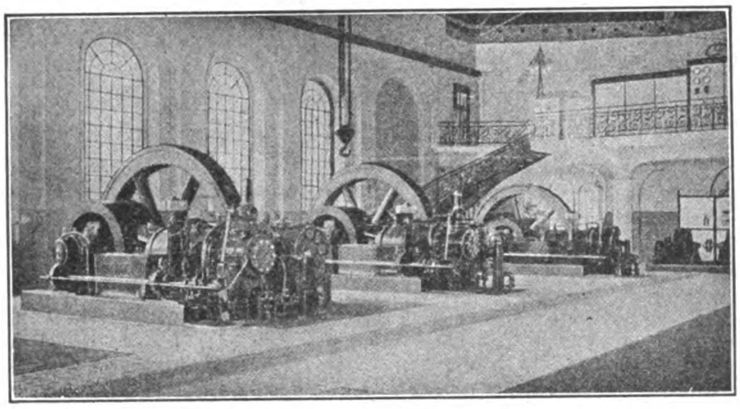


SHANGHAI
HONGKONG
CANTON
HANKOW

# MELCHERS & CO.

BREMEN
TIENTSIN
ICHANG
CHUNGKING

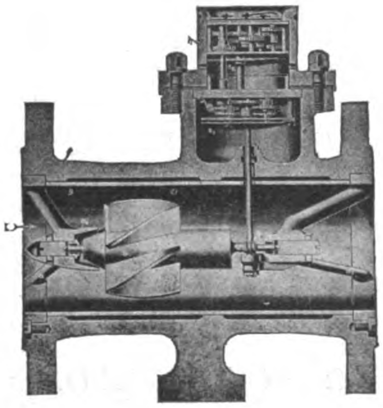
*Cable Address:* MELCHERS.

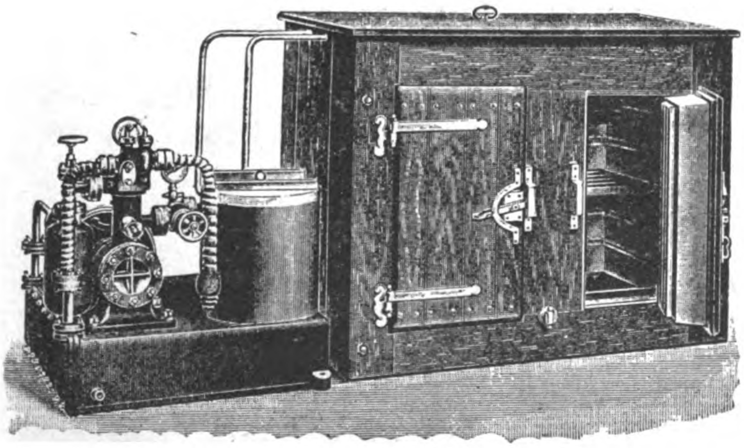


ELECTRIC POWER STATION WITH 3,400 HP. KOERTING'S GAS ENGINES
SUCTION GAS PLANTS UP TO 500 HP. FOR ALL FUELS

**Waterworks**
Designing and Construction.
Pumps—Pipes.
*Carl Francke, Bremen.*

**Watermeters.** Wet running
Dry running and Woltmann
System.
*Breblauer Metallgieperei,*
*Breslau.*





ICE-MAKING AND REFRIGERATING PLANTS

from the smallest to the largest capacities. Small Ice-making and Refrigerating Plants for Hotels, Hospitals, Private Houses "System Ziegler." Safe—Reliable—Simple.

## *General Agents for:*

High Speed Steam Engines "Roland"
Steam Turbines System "Zoelly"
Ship machinery, as Winches, Pumps, Engines
*Norddeutsche Maschinen & Armaturen Fabrik*
*G. m. b. H. Bremen*

Diesel Motors, Gas Engines, Suction Gas Plants
Koerting's Injectors, Ejectors, Heating Plants
*Gebr. Koerting, A. G. Koertingsdorf Hannover*

Watertube Boilers, System Garbe, Marine Boilers
*Duerr & Co., Ratingen*

Dredgers for Harbour and River Work, Barges
Steam Tugs, Gold Dredgers, Hoppers
*Werf Conrad, Haarlem*

Marine Motors "Kromhout," Motor Boats
*Gebr. Goedkoop, Amsterdam*

Slow Speed Steam Engines, Condensing Plants
*Maschinenbau Anstalt A. G. Goerlitz*

Electrical Fittings, "Bergmann" Tubes, Meters
*Bergmann Electricitaets Werke, A. G. Berlin*

Electric Cables & Wires, Telephone & Telegraph Wires
*Dr. Cassierer, Charlottenburg*

Electric Fans, Small Motors, X Ray Apparatus
*Dr. Max Levy, Berlin*

Telephones, Central Stations, Bells
*Telephonfabrik vorm. F. Berliner, Hannover*

Textile Machinery, Bleaching & Dyeing
Finishing & Printing Plants for Cotton, Linen, Wool
*Fr. Gebauer, Berlin*

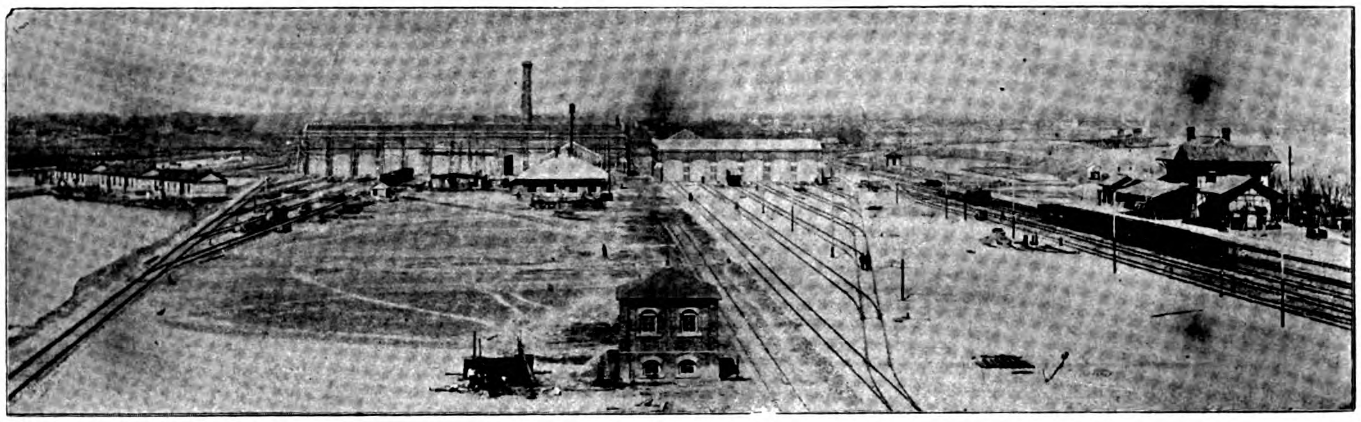
Ice-making & Refrigerating Plants, Centrifugal.
*Leopold Ziegler, Berlin*

Wood-working Machinery, *Teichert & Sohn*

"Atlas" Cranes, Electric Cranes, Differential Blocks
*Eduard Weiler, Berlin*

Steel Constructions, Steel Bridges, etc.
*Louis Eilers, Hannover*

Watermeters, Woltmann Meters
*Bresslauer Metallgiesserei, Breslau*

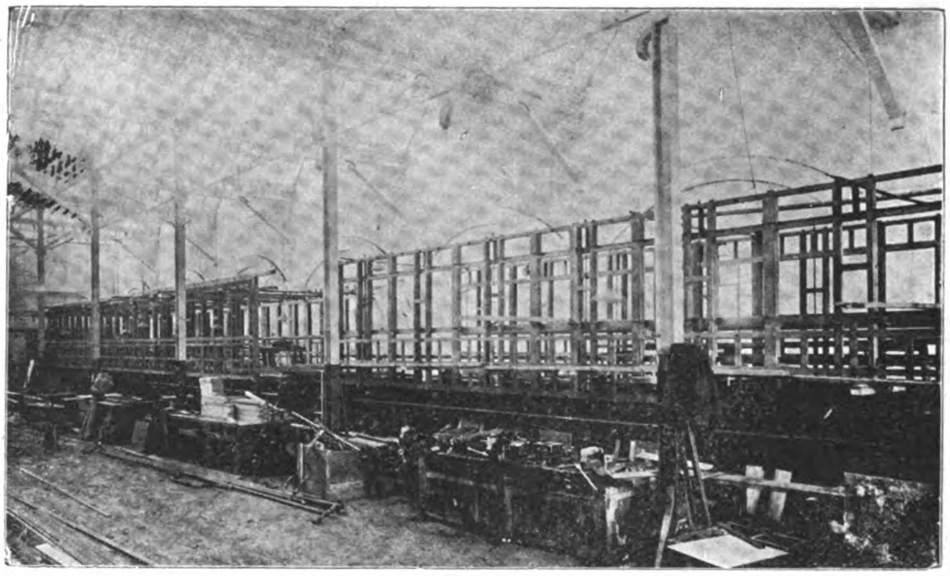


# WOOSUNG CAR SHOPS

OF THE

## SHANGHAI -:- NANKING -:- RAILWAY

LOCATED AT WOOSUNG AT ENTRANCE TO WHANGPOO RIVER, SHANGHAI. DEEP WATER WHARF WITH EVERY FACILITY FOR HANDLING HEAVY MATERIAL.



VIEW OF ERECTING SHOP

THESE SHOPS ARE FULLY EQUIPPED WITH THE MOST MODERN PLANT AND APPLIANCES FOR THE CONSTRUCTION OF CAR BODIES AND SETTING UP CAR PARTS ORDERED FROM ABROAD, ALL UNDER EXPERT SUPERVISION : : : : : : : : : : : : : : : : : : : : : : :

**CARS FOR THE NANKING CITY RAILWAY, KIANGSU RAILWAY AND THE ANHWEI RAILWAYS WERE SET UP AND FINISHED AT THESE WORKS**

CORRESPONDENCE WITH OTHER RAILWAY COMPANIES SOLICITED

## SHANGHAI NANKING RAILWAY

Managing Director
TAOTAI CHUNG MUN-YEW

General Manager
A. W. U. POPE

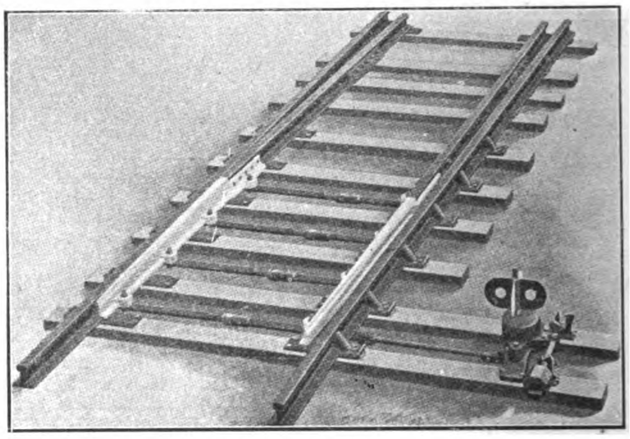
Cable Address: STEELYARD, Shanghai

# United States Steel Products Co.

## 24A KIANGSE ROAD, SHANGHAI

*Exporters of the Products of the*

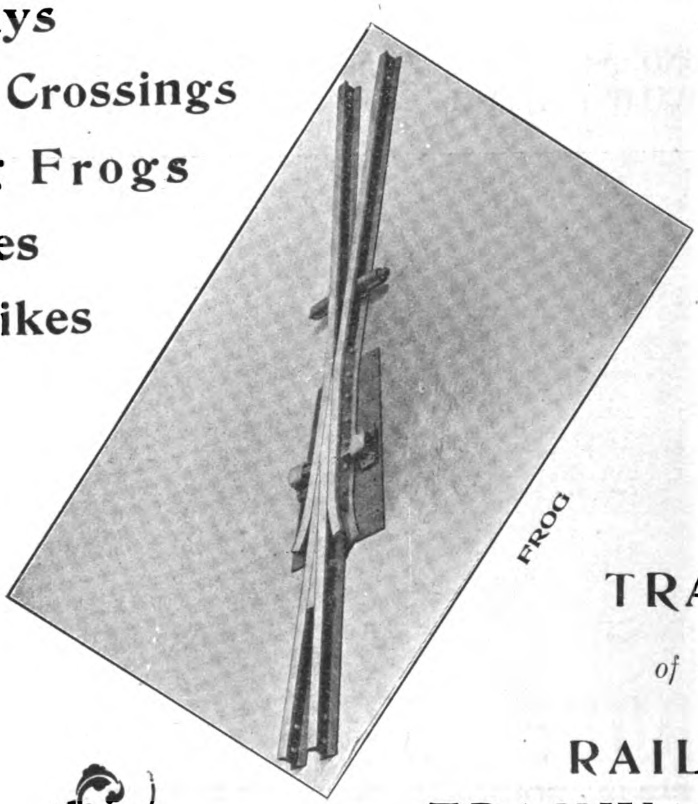
**Carnegie Steel Company**
**Illinois Steel Company**
**Lorain Steel Company**



SWITCH POINTS

*Manufacturers of*

**Steel Rails for Railways and Tramways**
**Switch Points and Crossings**
**Rigid and Spring Frogs**
**Steel Cross Ties**
**Bolts, Nuts and Spikes**
**Tubular Poles**
**Coiled Springs for Cars**



FROG

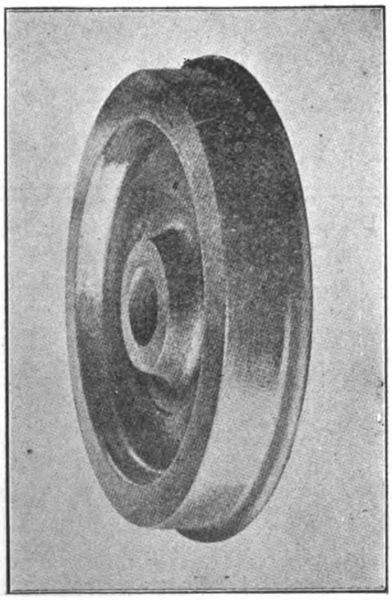
**PORTABLE TRACK**

*for Industrial and Construction Work*

**SPECIAL TRACK WORK**

*of any kind for*

**RAILWAY and TRAMWAYS CONS'T.**



WHEEL

**CARNEGIE STEEL SHEET PILING**
for Cofferdam Work
**SCHOEN SOLID ROLLED STEEL WHEELS**
FORGED STEEL AXLES

## ESTIMATES AND PRICES

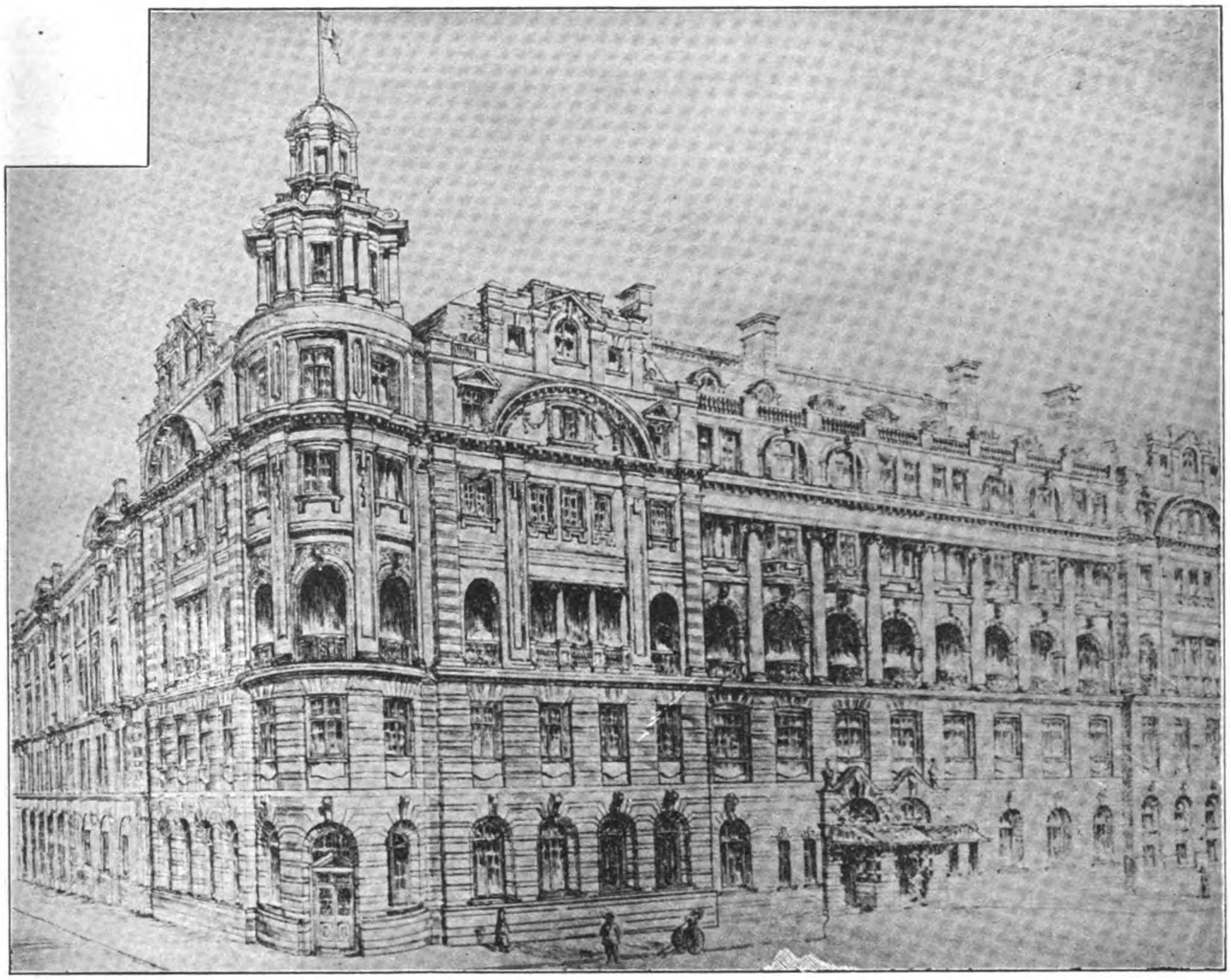
**Submitted Immediately upon Request**

# ASTOR HOUSE HOTEL CO., LTD.

Cable Address:
"ASTOR" SHANGHAI
Chinese Name: "LEE-ZO"

**WILLIAM LOGAN GERRARD**
Manager.

Codes Used:
A. B. C. 5th EDITION
WESTERN UNION



*Telephone:*

| | | | |
|---|---|---|---|
| GENERAL OFFICE | 200 | MANAGER'S | 908 |
| SECRETARY'S OFFICE | 500 | GUESTS' | 904 |

# THE WALDORF-ASTORIA OF THE ORIENT

**Largest, Best and Most Modern Hotel in the Far East. Main Dining Room Seats 500 Guests, and is Electrically Cooled. Two hundred Bedrooms with Hot and Cold Baths Attached to Each Room.**
**Cuisine Unexcelled; Service and Attention Perfect. Summer Garden; American Bar and Billiard Room; Lounge, Smoking and Reading Rooms; Barber and Photographer on the Premises.**

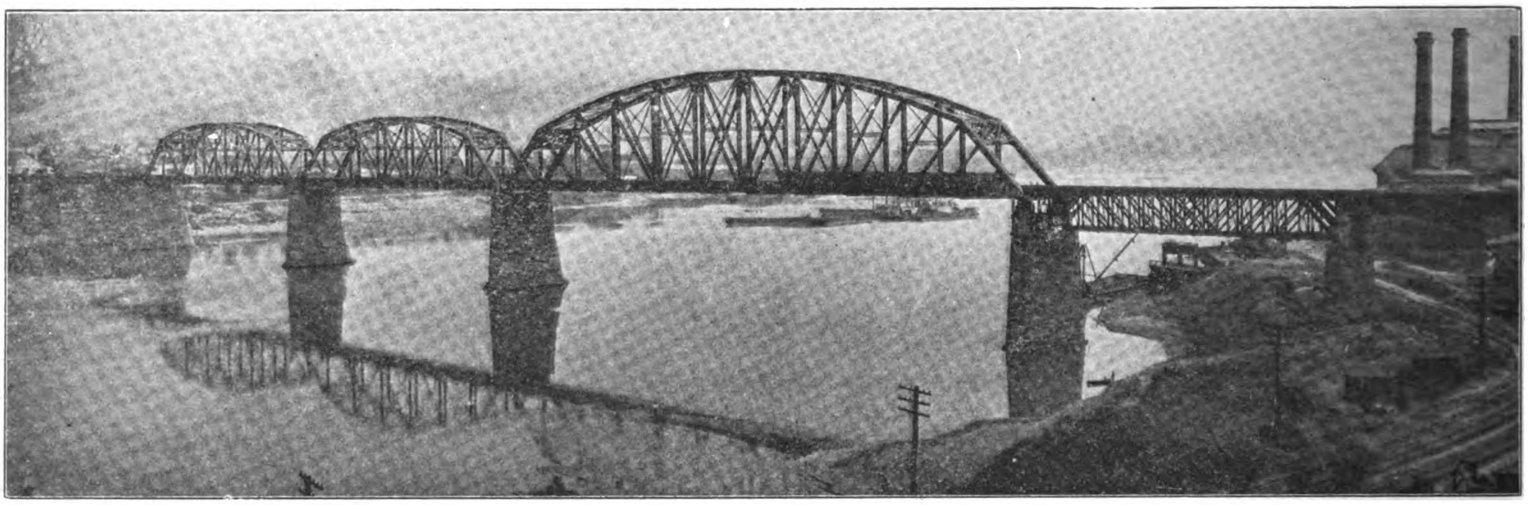
***Rates from $6; Special Monthly Terms***

SHANGHAI, CHINA

# American Bridge Company of New York

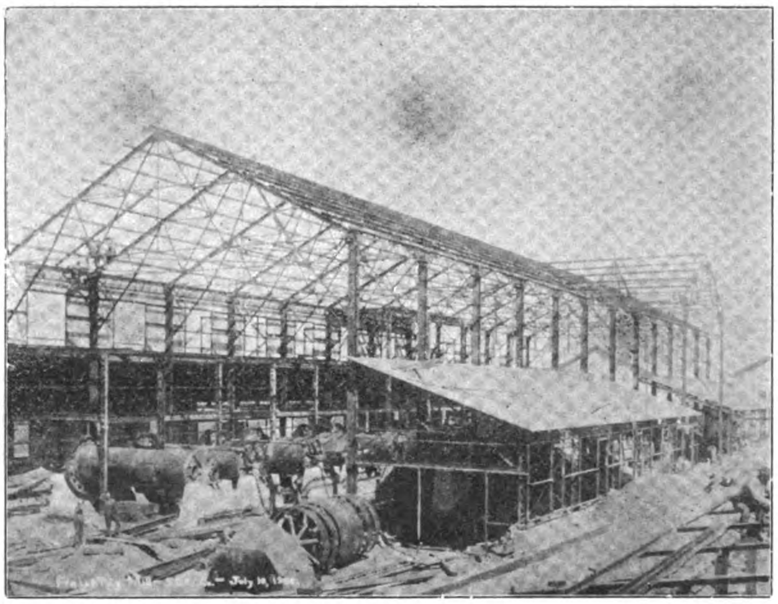
Export Representatives: United States Steel Products Company, New York

**General Offices: Hudson Terminal, 30 Church Street, New York**


## Annual Capacity 750,000 Tons

Structural Steel for Every Purpose


Designs & Estimates Submitted for Bridges and Steel Buildings Erected Complete

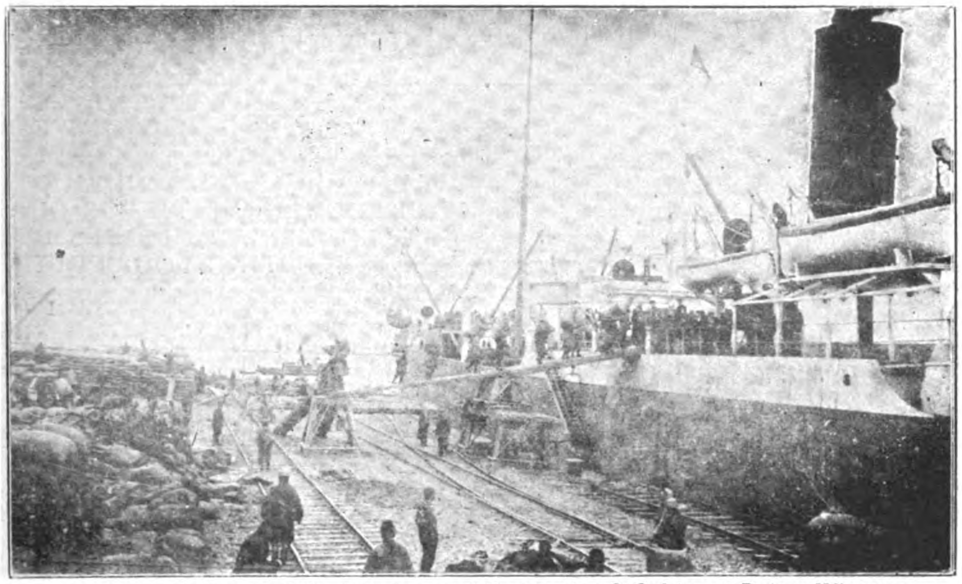
# United States Steel Products Co.

24A KIANGSE ROAD, SHANGHAI

# AMERICAN & MANCHURIAN

## STEAMSHIP LINE

REGULAR SAILINGS BETWEEN NEW YORK & FAR EASTERN PORTS


Steamer "Kasenga" of the American and Manchurian S. S. Line at Dairen Wharves

GENERAL AGENTS

NORTON & SONS
Produce Exchange
New York City

ORIENTAL AGENTS

Yokohama, Kobe and Nagasaki:—
MESSRS. SALE & FRAZAR, LTD.

Taku:—
MITSUI BUSSAN KAISHA.

Shanghai and Hongkong:—
MESSRS. SHEWAN TOMES & CO., LTD.

Manila, Cebu, Iloilo:—
MESSRS. MACLEOD & CO.

Singapore:—
MESSRS. MCALISTER & CO., LTD.

## Hoisting Rope of Every Description

For Elevators, Mines, Coal Hoists, Ore Hoists, Conveyors, Derricks, Stump Pullers, Steam Shovels, Dredges, Logging, Ballast Unloaders, etc.

New Standard Strengths,
Weights and List Prices Were Adopted
May 1, 1910.
Send for New Catalog and Copy of
"American Wire Rope News,"
Illustrating and
Describing the New Standard
Strengths

# AMERICAN STEEL & WIRE CO.

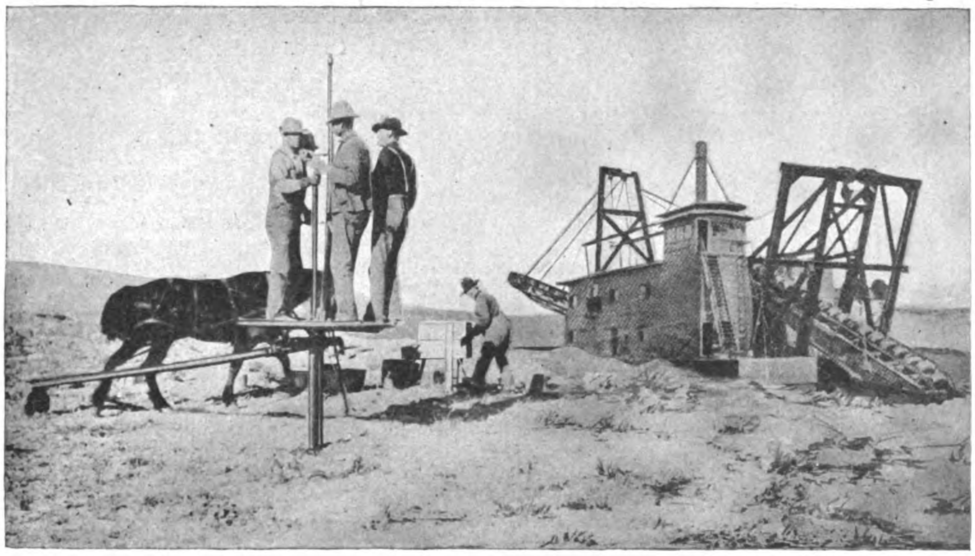
REPRESENTATIVES: UNITED STATES STEEL PRODUCTS CO.

24A KIANGSE ROAD, SHANGHAI, CHINA

# NEW YORK ENGINEERING COMPANY

WE ARE SPECIALISTS IN BUILDING GOLD DREDGING MACHINERY. THE AMERICAN TYPE OF DREDGE SUCCEEDS WHERE OTHERS FAIL. NO GROUND OR CONDITIONS ARE TOO SEVERE FOR OUR DREDGES AND THEY DIG MORE YARDS PER DAY AT LESS COST THAN ANY OTHER DREDGE IN THE WORLD. WE HAVE SUPPLIED GOLD DREDGES TO ALL PARTS OF THE WORLD AND MANY WITH STEEL HULLS, WHICH IS OUR SPECIALITY.

THIS CUT ILLUSTRATES OUR EMPIRE HAND DRILL OPERATING AHEAD OF ONE OF OUR DREDGES. THE EMPIRE IS THE LIGHTEST, CHEAPEST AND BEST PROSPECTING DRILL IN THE WORLD. IT HAS ENTIRELY REPLACED STEAM DRILLS FOR PLACER WORK AND IS SPECIALLY ADAPTED TO TROPICAL COUNTRIES AND INACCESSIBLE GROUNDS: NO ONE PIECE WEIGHS OVER 75 LBS. IF YOU ARE INTERESTED IN PLACER WORK OR GOLD DREDGING, YOU SHOULD WRITE FOR OUR CATALOGUES AND PRICES BEFORE SELECTING YOUR EQUIPMENT.



**New York Engineering Company**

2 Rector Street, New York City, N. Y.
U. S. A.

---

Registered **"PRESTO"** Brand.

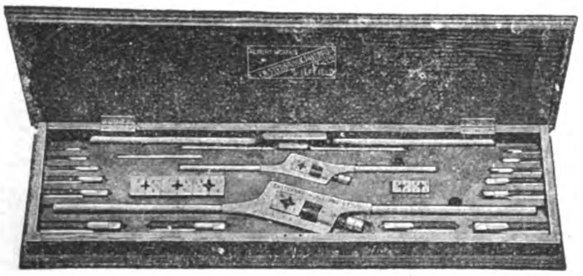
## STOCKS, DIES and TAPS.

**Cheapest ENGLISH make.**

**WARRANTED WHITWORTH THREAD.**

**BEST ON THE MARKET.**

Write for Price Lists.



With or without Cases.

**Manufactured throughout in Sheffield, England,**

BY

## EASTERBROOK, ALLCARD & CO., Ltd.,

**SHEFFIELD and LONDON.**

---

**Waggon Fabrik Act. Ges. Vam.**

## P. HERBRAND & CO.

**Cologne -:- Ehrenfeld -:- Germany**

FOUNDED 1866

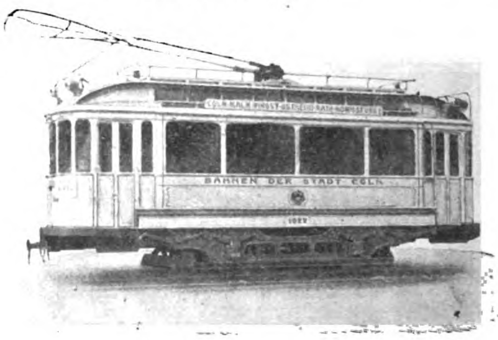
Passenger Freight Cars

of every description for Standard & Light Railways

**ELECTRIC TRAMWAYS & RAILWAYS**

**CARS — — — — SPECIALITIES — — — — TRUCKS**

Boilers Refrigerating



with Automatic Discharge Trucks etc.

**For Prices and Particulars, Apply**

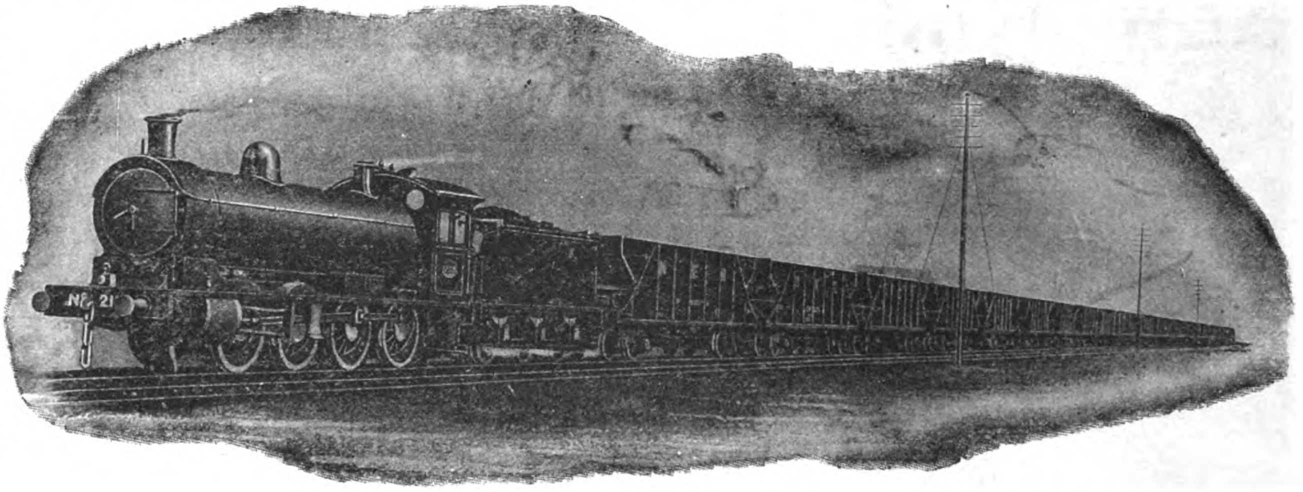
**MACHINERY DEPARTMENT**

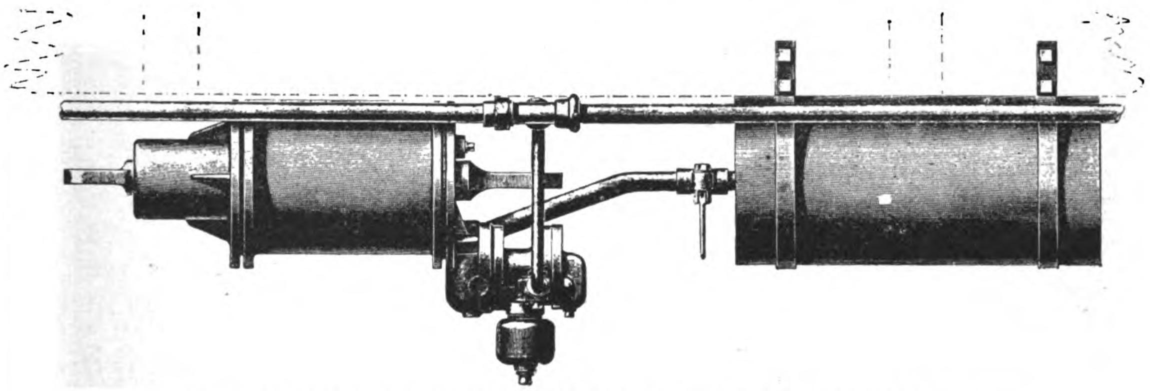
## Melchers & Co., Shanghai

# THE WESTINGHOUSE BRAKE

N. E. R. Goods Train fitted with the Westinghouse Brake and Friction Draft Gear.

**STANDARD ON MORE RAILWAYS THAN ANY OTHER BRAKE**





APPLICATION OF IMPROVED TRIPLE VALVE TO CHINESE RAILWAY CARRIAGES OR WAGONS

THE 3½" IMPROVED WESTINGHOUSE TRIPLE VALVE: SIMPLE IN CONSTRUCTION AND ESPECIALLY DESIGNED TO MEET THE REQUIREMENTS OF FAR EASTERN RAILWAYS

Manufactured and furnished solely by

**The Westinghouse Brake Co., Ltd.**

London

**JARDINE MATHESON & CO., LTD.**

Sole Agents for China

# THE PREMIER COMPANY OF THE EAST

## Agencies from London to Manchuria

EXTRACT FROM 12th ANNUAL REPORT
SHEWING A RECORD PROGRESS : : :

| | |
|---|---|
| Insurance in Force | $37,855,885 |
| Assets | $ 8,415,250 |
| Income | $ 3,566,559 |
| Total funds | $ 8,216,812 |

*Low Rates!*

*Unconditional Policy!*

*Largest Bonuses!*

Registered under Hongkong Ordinances and under the Life Assurance Companies' Acts, England; and offers its Home-Returning policyholders the Double Advantage of being able to pay their Premiums to the Company's London and American Agents, Messrs. Thomas Cook and Sons, at reduced rates.

THE

# Western-Electric

COMPANY

*FURNISHES EQUIPMENT FOR EVERY ELECTRICAL NEED*

Manufacturers of the celebrated

## "BELL" TELEPHONES

Distributors of Electrical Apparatus
and Materials of all Kinds

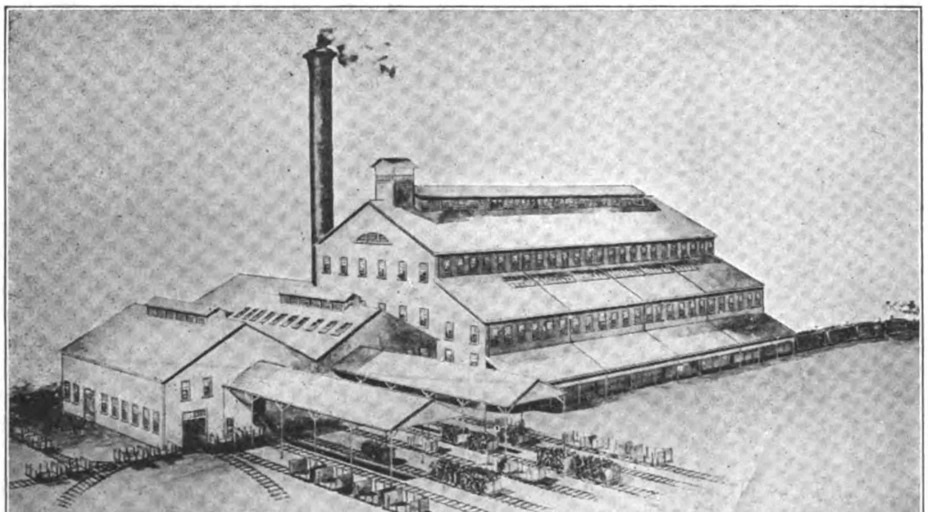
AGENTS FOR CHINA
ARNHOLD, KARBERG AND COMPANY, SHANGHAI

AGENTS FOR JAPAN
NIPPON ELECTRIC COMPANY, LTD., TOKYO

*CATALOGUES, BULLETINS AND ESTIMATES FURNISHED ON REQUEST*

# HONOLULU IRON WORKS COMPANY

Established 1852 HONOLULU, TERRITORY OF HAWAII Rebuilt 1899



EWA MILL DESIGNED BY HONOLULU IRON WORKS COMPANY, FOR A CAPACITY OF 2,400 TONS CANE PER DIEM

BUILDERS OF

## Sugar Machinery

OF ALL DESCRIPTIONS

Sugar Mills
Evaporators
Tanks
Cane Cars
Vacuum Pans
Steam Boilers
Riveted Steel Pipe
Cane Unloaders, Etc.

Consulting Engineers, Designers and Contractors
FOR COMPLETE SUGAR FACTORIES

# HONOLULU IRON WORKS COMPANY

Eastern Office, 11 Broadway, NEW YORK

Cable Address: "HONIRON," Honolulu Codes: A. B. C. 4th and 5th Editions and Western Union

## Have you ever stopped

*to consider that a lubricant that splashes or drips increases the fire risk of a building?*

Increased fire risk means *increased fire insurance rates.*

**ALBANY GREASE**
**neither splashes nor drips.**

That's why five underwriters will allow a *lower* rate on buildings containing machinery lubricated with ALBANY GREASE than on buildings containing oil lubricated machinery.
ALBANY GREASE effects many other economies. That's why it's the *cheapest* of all lubricants to *use.*

*You can readily prove, at our expense, what an all-around economical lubricant ALBANY GREASE is for all machinery. Just send us pipe tap, depth of oil hole, where used and name of firm. An Albany Grease cup and trial package of ALBANY GREASE will come to you free.*

**ALBANY LUBRICATING COMPANY**
***Sole Makers***
ADAM COOK'S SONS, *Props.* 313 WEST ST., NEW YORK,

## HOTEL DE FRANCE

PLAZA GOITI, MANILA

Best Appointed Hotel in Manila in Heart ot Business Section.—Large Sample Rooms.—Hot and Cold Water.—Elegant Banquet Hall.—Private Dining Rooms.—French Cuisine.—Guides for Tourists.—Interpreter meets all Steamers.

**Cable Address: CAMS**

## THE CROWN

## IGNITOR

MADE BY
F. H. THOMPSON
MANILA
P. I.

## A High Grade Dry Cell

25 AMPERES OVER
1½ VOLTS

*Guaranteed*

**Specially adapted to cope with Oriental Climatic Conditions.**

**Replace All Others Wherever Used**

# The H. B. Claflin Co.

## Church, Worth, W. Broadway and Thomas St., New York.

**Manufacturers and wholesalers, Cotton Piece Goods, all lines of Dry Goods and Fancy Goods.**

Our export department is equipped with an expert force and we make direct shipments to all parts of the world.

We desire to call particular attention to the fact that we make a special feature of packing and shipping goods to conform with the requirements of all markets.

Importers in Oriental markets will find unequal facilities and special "Chops" to suit their requirements as well as lowest market prices.

**EUROPEAN OFFICES**

Manchester, England,
Paris, France.

**Cable Address: "CLAFLIN" New York, all codes used.**

Launches complete ready to run. Engines operate on KEROSENE, (paraffin), Gasoline, (petrol) distillate (COAL OIL) alcohol or naptha
Any one can operate them
All launches guaranteed and tested

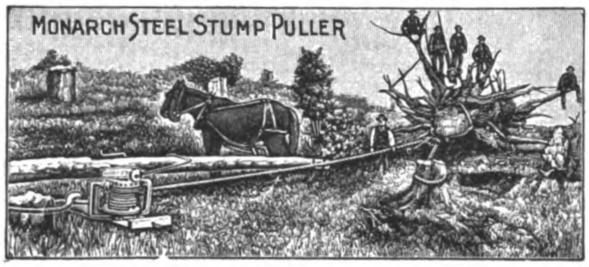
**MICHIGAN STEEL BOAT CO.,**

Dept. T.—1256-1500 Jefferson Avenue,

DETROIT, MIHIGAN, U. S. A.

High grade pleasure and service motor boats 16, 18, 20, 23, and 27 feet long, ready for use with high grade two cycle reversible Detroit engines installed. Start without cranking and need no lamp; boats absolutely non-leakable, non-sinkable, and non-rustable. NEED NO BOATHOUSE, CANNOT BE EATEN INTO BY WORMS OR BUGS, used throughout the world. Agencies with first-class reputable business houses particularly desired. Bank references exchanged. Will quote prices in your own currency, freight prepaid to any part of the world. Write TO-DAY for our FREE ILLUSTRATED CATALOG giving all information in regard to constructions, dimensions, equipment, etc., and SPECIAL PRICES. UNSOLICITED TESTIMONIALS FROM USERS OF MICHIGAN STEEL IN ALL PARTS OF THE WORLD SENT ON REQUEST.

**MONARCH STEEL STUMP PULLERS**




Will pull green stumps 7 feet in diameter and will clear from 1 to 5 acres a day. GUARANTEED 700 horse power and against breakage. ONLY stump Puller Factory in the world making their own STEEL CASTINGS. For catalog and discounts, address Dept.

**ZIMMERMAN STEEL CO., Lone Tree, Iowa, U. S. A.**

**EASTERN ENGINEERING COMPANY**

**ARCHITECTS AND ENGINEERS**

Special attention paid to Reinforced Concrete Designing : : : : : :

**Correspondence Solicited**

Rooms 10 and 11 LACK & DAVIS Bldg. Manila, P. I.

# J. G. WHITE & COMPANY

**INCORPORATED**

***Engineers, Contractors***
***Purchasing Agents***
***Managers***

**43-49 Exchange Place, New York, N. Y.**

*Alaska Commercial Building*
*SAN FRANCISCO, CALIFORNIA*

*First National Bank Building*
*CHICAGO, ILLINOIS*

**LONDON CORRESPONDENTS**

**J. G. WHITE & COMPANY, Limited, 9 Cloak Lane, E. C.**

Business Founded 1795 Reorganized 1879

# AMERICAN BANK NOTE COMPANY

BROAD AND BEAVER STREETS, NEW YORK, U. S. A.

The relations of this Company with foreign governments and corporations have grown in intimacy until it has come to occupy a unique position in the world of business. The Company has enjoyed the confidence of governments and corporations because it has insisted on constant experimenting by way of improving old methods and inventing new.

Its work is the engraving and printing of banknotes, stock certificates, bonds, drafts, checks, bills of exchange, stamps, etc., with SPECIAL SAFEGUARDS to PREVENT COUNTERFEITING.

Its lithographic department is prepared to meet the demand for less expensive work with the same fidelity in preparation and the same safeguards during manufacture as that accorded the work engraved from steel plates.

GATES BREAKER

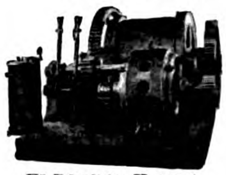
BAND MILL

# ALLIS-CHALMERS COMPANY

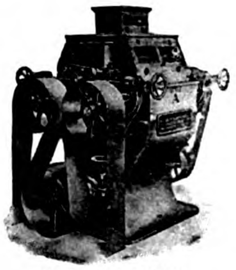
BLAKE CRUSHER

INDUCTION MOTOR

**BUILDERS OF STEAM TURBINES, HYDRAULIC TURBINES, GAS ENGINES, STEAM ENGINES, GENERATORS & MOTORS**



ELECTRIC HOIST



ROLLER MILL

## Crushing and Cement Making Machinery
## Flour Mill and Saw Mill Equipment
## Mining Machinery, Pumping Machinery

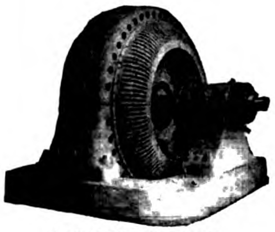
**EASTERN REPRESENTATIVES:**

**AMERICAN TRADING CO.** Shanghai, China

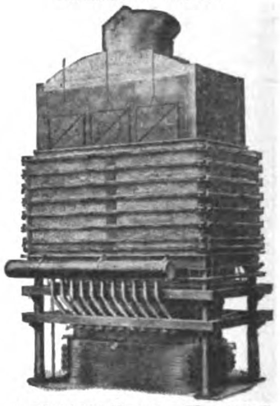
**AMERICAN TRADING CO.** Yokohama and Kobe, Japan

**FRANK L. STRONG, Manila, P. I.**

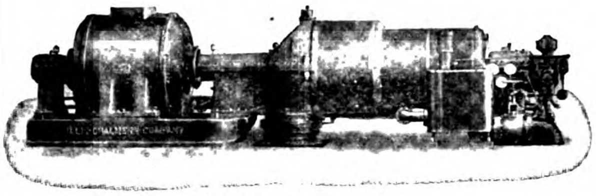
**General Offices:—Milwaukee, Wis., U. S. A.**



A. C. GENERATOR

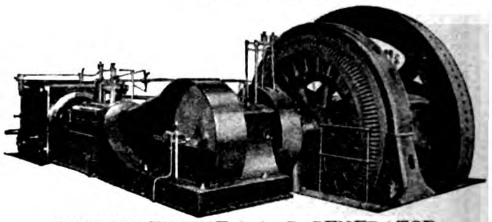


RECTANGULAR FURNACE



STEAM TURBINE UNIT

GAS ENGINE & A. C. GENERATOR



CORLISS ENGINE & A. C. GENERATOR

# The Philippine Journal of Science

Edited by

PAUL C. FREER, M. D., Ph. D.

*A Journal devoted to the scientific work done in the Philippine Islands by the members of the Staff of the Bureau of Science, and by other scientific workers.*

**PUBLISHED BY THE BUREAU OF SCIENCE OF THE PHILIPPINE ISLANDS**

Volume V will begin January, 1910:

| | | |
|---|---|---|
| The entire Journal | $5.00 | U. S. currency |
| Section A, General Science | 2.00 | U. S. currency |
| Section B, Medical Sciences | 3.00 | U. S. currency |
| Section C. Botany | 2.00 | U. S. currency |
| Single Numbers | .50 | U. S. currency |

Each section is separately paged and indexed.

A limited number of unbound copies of previous volumes are available and can be secured from the Director of Printing at the following rates: Volume 1, 1906 (not divided into sections) $5, U. S. currency; Supplement to Volume 1, $2.50, United States Currency; Volume I (without supplement), $3, United States currency; all later volumes at current subscription prices.

SUBSCRIPTIONS may be sent to the DIRECTOR OF PRINTING, Manila, P. I.

# Bohler Bros. & Co., Ltd.

## Steel Works

**STYRIAN TOOL STEEL**

*Vienna, London, Berlin, Sheffied, Paris, Brussels, Leipsic, Dusselford, Munich, Frankfort a/m, Prague, Budapesth, Remscheid, Moscow, St. Petersburg, Ekaterinburh, Vladivostok, Tokyo, Osaka, Sydney, Moji*

*Extensive Stock at Shanghai of Highspeed, Tungsten, Chromium and Manganese Steels, Drill Steel, Tools, Files, Wire Ropes, Etc.*

**On Admiralty List—Contractors to most Governments.**

**Japan Branch: International Building, Tokyo.**

**China Branch: 10 Kiangse Rd., Shanghai.**

# HOTEL ST. FRANCIS

## Union Square =:= San Francisco

ROOMS WITHOUT BATH
Open Court Outlook
One person, $2.00
Two persons, $3.50
Facing Park
One person, $2.50
Two persons, $4.00

ROOMS WITH BATH
Open Court Outlook
One person, $2.50 and $3.00
Two persons, $4.00 and $5.00
Street Outlook
One person, $3.50, $4.00 and $5.00
Two persons, $5.00 and $6.00

Facing Park
One person, $5.00 and $6.00
Two persons, $6.00, $7.00 and $8.00

SUITES
Sitting Room, Bedroom and Bath
One or two persons, $10.00, $12.00, $15.00, $18.00, $20.00

Servant's Room, $1.50 a day
Servant's Meals, $1.50 a day

IN the City of San Francisco, Union Square is probably the most unique metropolitan center in America. Here, within a radius of two blocks, are all the fashionable shops, the theaters and most of the clubs. There is possibly no city in the world where so many characteristic features are assembled within a limited area and no city in America the local color of which is so fascinating to the traveler. Facing one side of this park is the imposing Hotel St. Francis, the largest hotel investment in Western America, which, upon completion of its annex, will become the largest hotel in the world. The St. Francis is generally conceded to be the farthest advance of science in modern hotel service, and also presents architecturally one of the best examples of an artistic treatment of a utilitarian idea.

# Standard Oil Company of New York

## 26 Broadway, New York, U. S. A.

**North China Department**
**Shanghai (Head Office)**
**Branches:**
CHINKIANG, NANKING, WUHU,
KIUKIANG, TSINGTAU, CHEFOO,
TIENTSIN, NEWCHWANG, HANKOW.

**South China Department**
**Hongkong (Head Office)**
**Branches:**
CANTON, AMOY, FOOCHOW, SWATOW,
FORMOSA, SAIGON, INDO CHINA,
HAIPHONG, INDO CHINA, TOURANE,
INDO CHINA, MANILA, P. I., ILOILO, P. I.,
CEBU, P. I., BANGKOK, SIAM.

**Japan and Korea**
**Yokohama (Head Office)**
**Branches:**
TOKIO, HAKODATE, OTARU, KOBE,
NAGOYA, ITOZAKI, TSURUGA,
SHIMONOSEKI, NAGASAKI,
CHEMULPO, FUSAN.

# THOMPSON & BEDFORD DEPT.

**Distributers of**

**Lubricating Oil to Dealers**

**and Railways Only = =**

*STOCKS TO BE HAD AT ABOVE BRANCHES*

# Standard Oil Company of New York

## 26 Broadway, New York

We are sole proprietors and importers of the following brands of high-grade American Oils:

| South China Department | Japan and Korea | North China Department |
|---|---|---|
| BRANDS HANDLED | BRANDS HANDLED | BRANDS HANDLED |
| Brilliant Tiger | Atlantic Chester | Comet Brilliant |
| Eagle Nonpareil | Tiger Victory | Cock Eagle |
| Lighthouse | Nonpareil Westminster | Snowflake Lighthouse |
| | Lighthouse | |

Pratt's Motor-Car Spirits and Stove Naphtha, Pratt's Spirits of Turpentine Gas Oils, Fuel Oils and all other products of Petroleum.

# VACUUM OILS

**on account of their greater endurance, go further—lubricate more—and consequently are more economical than the ordinary commercial oils sold for lubricating purposes. They are distributed from warehouses in all parts of the world.**

## VACUUM OIL COMPANY

ROCHESTER AND OLEAN, N. Y.

**Stocks are kept at the following Asiatic ports:**

CHINA

SHANGHAI, The Vacuum Oil Company, 1 The Bund.
HONG KONG, The Vacuum Oil Company, King's Buildings, Connaught Road.
HANKOW, The Vacuum Oil Company, English Concession.
CHEFOO, Diedrichsen, Jebsen & Co., Agents.
NEWCHWANG, East Asiatic Co., Agents.
PORT ARTHUR (KOREA), East Asiatic Co., Agents.
TALIENWAN, East Asiatic Co., Agents.
TIENTSIN, Carlowitz & Co., Agents.
TSINTAU, Diederichsen, Jebsen & Co., Agents.
CHEMULPO (KOREA), E. Meyer & Co., Agents.
FOOCHOW, Dodwell, Carlill & Co., Agents.

PHILIPPINES

MANILA, The Vacuum Oil Company, 39 Plaza Cervantes.
CEBU, The Vacuum Oil Company, Lizarraga Hermanos.

JAPAN

KOBE, The Vacuum Oil Company, No. 26b Naniwa Machi. (P. O. Box 28, Sannomiya).
YOKOHAMA, The Vacuum Oil Company, 60 Main Street.
NAGASAKI, R. H. Powers & Co., Agents.

STRAITS SETTLEMENTS, JAVA, ETC.

SINGAPORE, The Vacuum Oil Company, 4½ Robinson Road.
SAMARANG, Van der Linde & Teves, Agents.
SOERABAIA, The Vacuum Oil Company, Willemskade.
BANGKOK, The Vacuum Oil Company, 5 Windmill Road.
SAIGON, Denis Freres & Cie., Agents, Rue Catinat.

# Standard Oil Company of New York

## ORIENTAL FREIGHT LINE

**Direct Steamship Service between North Atlantic Ports and The Far East**

## Via SUEZ CANAL

### FLEET:

**S. S. "HUDSON," S. S. "KENNEBEC," S. S. "SCHUYLKILL," S.S. "SENECA"**

Home Office: Philip Ruprecht Esq., 26 Broadway, New York

Boston Agent: Messrs. Patterson, Wylde & Co.

Far East Offices: Yokohama, Kobe (Japan); Shanghai, Hongkong (China); Manila, Philippine Islands; Singapore, Straits Settlements — Standard Oil Company of New York

Far East Agents: Penang, Messrs. Adamson, Gilfillan & Co., Ltd.
Malabar Coast, Messrs. Volkart Bros.

## Make that Cold Room a Cozy Den

In nearly every house there is one room that is extremely hard to heat—it is therefore practically closed for the winter. This room can be made the coziest room in the house with no trouble by the use of the

### PERFECTION OIL HEATER
(Equipped with Smokeless Device)

This heater gives intense heat, with no smoke, no smell. Turn it as high as you can to light it, as low as you can to extinguish it. Easy to clean, easily carried from room to room. Nickel or Japan finish. Every heater guaranteed.

## The *RAYO* Lamp

is the best lamp for all-round household purposes. Gives a clear, steady light. Made of brass throughout and nickel plated. Equipped with the latest improved central draft burner. Handsome—simple—satisfactory. Every lamp guaranteed.

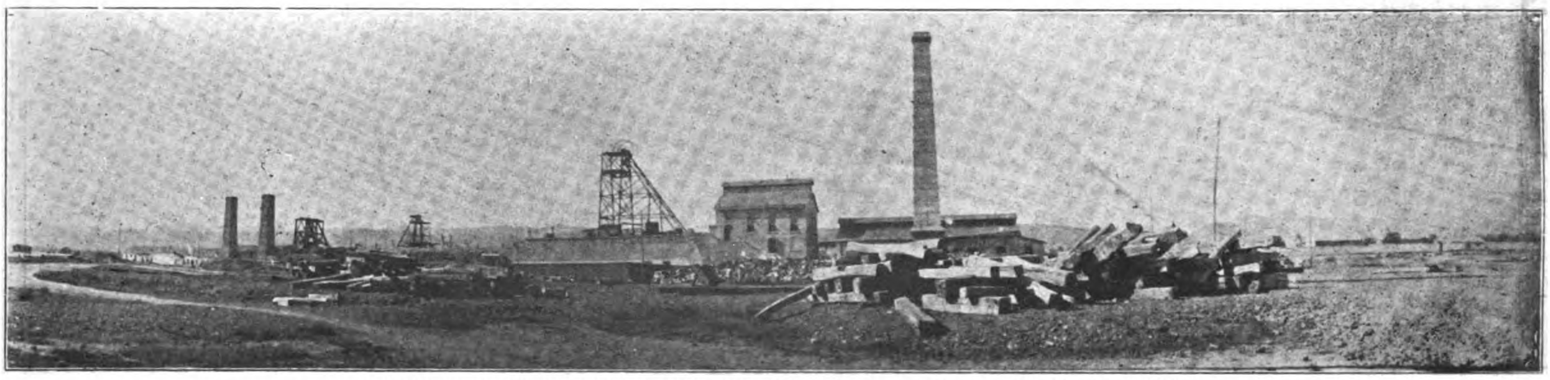
If you cannot get heater and lamp at your dealer's write to our nearest agency.

# Standard Oil Company of New York

# IMPERIAL CHINESE RAILWAYS

## THE TAO-CHING RAILWAY

(Imperial Chinese Government Honan Line) Pekin-Syndicate Railway



GENERAL VIEW OF COAL MINES ON THE LINE OF THE TAO-CHING RAILWAY

## "China's Road of Anthracite"

THE TRAINS OF THIS LINE CONNECT AT SIN-SIANG-SIEN WITH THE THROUGH SERVICE OF THE PEKING-HANKOW RAILWAY, IT TAPS THE GREAT ANTHRACITE COAL DEPOSITS OF SHANSI, AND CONVEYS THE PRODUCTS OF THE MINES TO THE NEAREST NAVIGABLE RIVER.

# THE PIEINLO RAILWAY

"THE FIRST SECTION OF THE PROJECTED CENTRAL TRUNK LINE"

(KAIFENG-FU TO HONAN-FU)

**This line connects with the through service of the Peking-Hankow Railway at Chengtingfu, enabling the Traveller to Visit Kaifengfu, the Provincial Capital of Honan, and the Old Capital of the Empire at Honanfu.**

CHINESE IMPERIAL RAILWAYS

# PEKING-HANKOW LINE

"THE ROAD THROUGH THE HEART OF CHINA"

## Avoid the Cold and Rough Weather in the Sea Trip between Shanghai and the North by the more comfortable Route up the Yangtsze to Hankow, and from there via the Ching-Han Railway to Peking, where through connections for Europe are made with the Trains de Luxe of the Imperial Railways of North China.

This line passes through the Heart of the Empire and enables the traveller to and from Europe to catch a glimpse of Old China. Ancient walled cities, temples and pagodas are seen from the comfortable seats of the weekly trains de luxe operated by this line. From Peking, the great capital of the oldest civilization in the world, the train departs from the famous Chien-Men and carries the traveller through the historical and legendary portions of the Empire, to the modern industrial center at Hankow—the Chicago of China. Connections are made with the Cheng-tai Railway at Chengtingfu, with the Tao-Ching Line at Sin Siang-sien, and at Chengchowfu with the Pienlo Line.

A weekly express train de luxe leaves Peking every Tuesday, and Hankow every Friday, making the trip of over 700 miles in less than thirty hours.

# IMPERIAL CHINESE RAILWAYS

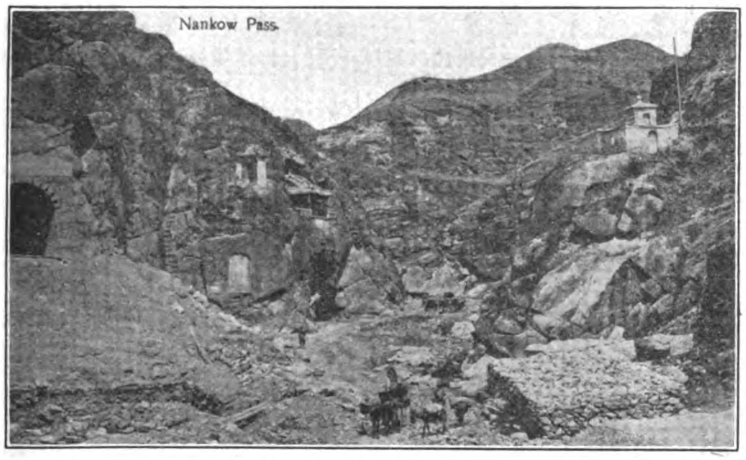
## *The Cheng-Tai Railway*

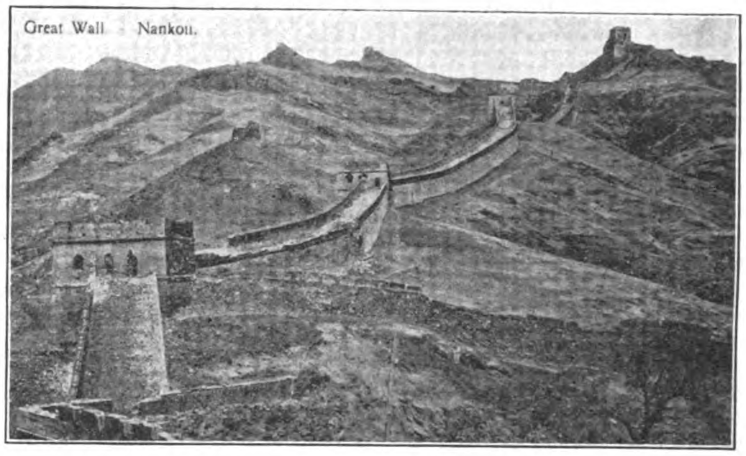
*(IMPERIAL GOVERNMENT SHANSI LINE—CHENGTINGFU TO TAIYUANFU)*

The trains of this line connect with the through service of the Peking-Hankow Railway, affording Travellers the opportunity of seeing the most picturesque part of China. The line passes through mountainous section of country. Rich in Mineral Resources to the Provincial Capital of Shansi at Taiyuanfu. This interesting city is a great educational center, and famous for the fine quality of its artistic embroideries.

## *The Peking-Kalgan Line*

*"THE ROAD TO THE GREAT WALL"*




This line follows the ancient caravan route and military highway from Mongolia into China by the way of the historic Nankow Pass. This pass is the Key to Peking, and Kalgan is the gate of the Empire. From here the great camel caravans set out on their long journeys across Mongolia to Siberia and Central Asia. This old frontier mart, retaining its time-honored characteristics, one of the most interesting sights of the Old World, is made accessible by the new railway. The line also carries the passenger in two hours from Peking to Nankow, when the Great Wall of China and the Ming Tombs may be seen. A foreign hotel is operated by the railway authorities at Nankow, where chairs and guides may be secured for the Tombs.

**TAOTAI JEME TIEN-YU, Director General**

# THE PHILIPPINE JOURNAL OF SCIENCE

## A Journal Devoted to the Scientific and Commercial Investigation of the Tropics.

EDITOR: PAUL C. FREER, M. D., Ph. D.

CO-EDITOR: RICHARD P. STRONG, Ph. B., M. D.

*Published by the Bureau of Science, Government of the Philippine Islands.*

Section A includes papers on (1) chemical research work, especial stress being placed on the investigation of the natural resources and products of the Islands, (2) geology, mineralogy and mining, (3) systematic and economic entomology, ornithology and icthyology, and (4) the ethnology and ethnography of the Malayan group.

Section B is devoted to studies on the causes, etiology, pathology, prophylaxis and treatment of tropical diseases; serum therapy and work on immunity.

Section C presents the results of research in both systematic and economic botany.

It is the intention to divide Section A in the near future and to form an additional section (D) which will be devoted to chemistry, geology, mineralogy and mining.

**SPECIMEN CONTENTS OF RECENT NUMBERS:**

Vol. IV.—1.—Section A: 91 pages; photographic plates, maps, etc.
FERGUSON, HENRY G. Physiography of the Philippine Islands.
SMITH, WARREN D. Contributions to the Physiography of the Philippine Islands.
BEAN, ROBERT BENNETT. Filipino Ears. A classification of Ear Types.
GRIFFIN, LAWRENCE E. Two New Species of Snakes Found in the Philippines.
SEALE, ALVIN. The Fishery Resources of the Philippine Islands.
II. Sponges and Sponge Fisheries.
McGREGOR, RICHARD C. A Collection of Birds from Northern Mindanao.
McGREGOR, RICHARD C. Philippine Ornithological Literature, II.
EDITORIAL.
REVIEW.

Vol. IV.—3.—Section B: Photographic plates, diagrams, etc.
COCA, A. F. Upon the Bactericidal Substances in Fibrin.
MARTINI, ERIC. The Development of Piroplasma and Trypanosoma of Cattle in Artificial Culture Media.
GARRISON, PHILIP E. and LEYNES, RICARDO. The Development of the Miracidium of Paragonimus Under Various Physical Conditions.
GARRISON, PHILIP E. and LLAMAS, ROSENDO. The Intestinal Worms of 385 Filipino Women and Children in Manila.
ARON, HANS. Some Investigations Concerning the Food and Nutrition of the Filipino People.
STRONG, RICHARD P. The Relation of the Indian Form of Relapsing Fever to African Tick Fever.
GRIFFIN, LAWRENCE E. Poisonous Snakes of the Philippine Islands.
EDITORIAL.

Vol. IV.—2.—Section C:
BRAND, A. Additional Philippine Symplocacae.
COPELAND, EDWIN BINGHAM. New and Interesting Philippine Ferns.
MERRILL, E. D. A Revision of Philippine Connaraceae.
MERRILL, E. D. A Revision of Philippine Loranthaceae.
RIDLEY, H. N. The Scitamineae of the Philippine Islands.

**PRICES:**

**Section A. $2, U. S. currency.**
**Section B. $3, U. S. currency.**
**Section C. $2, U. S. currency.**
**Entire Journal $5, U. S. currency.**
**Single Numbers, 50 cents, U. S. currency.**

FOREIGN AGENTS:

THE MACMILLAN COMPANY, 64-66 Fifth Avenue, New York City.
Messrs. WM. WESLEY & SON, 28 Essex Street, Strand, London, W. C.
Mr. MARTINUS NIJHOFF, Nobelstraat 18, The Hague, Holland.
Messrs. MAYER & MULLER, Prinz Louis Ferdinandstrasse 2, Berlin, N. W.
Messrs. KELLY & WALSH, LIMITED, 32 Raffles Place, Singapore, S. S.
Messrs. A M. & J. FERGUSON, 19 Baillie Street, Colombo, Ceylon.

*Write to Business Manager, Philippine Journal of Science, Manila, P. I., for sample copy and descriptive matter; or to any of the agents listed above.*

University of California
SOUTHERN REGIONAL LIBRARY FACILITY
405 Hilgard Avenue, Los Angeles, CA 90024-1388
Return this material to the library
from which it was borrowed.

REC'D LD-URL

NOV 0 6 1999

Form

UC SOUTHERN REGIONAL LIBRARY FACILITY
E 000 002 200 4